

Australian Defence Force's Medium and Heavy Vehicle Fleet Replacement (Land 121 Phase 3B)

Department of Defence

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Canberra ACT
25 June 2015

Dear Mr President
Dear Madam Speaker

The Australian National Audit Office has undertaken an independent performance audit in the Department of Defence titled *Australian Defence Force's Medium and Heavy Vehicle Fleet Replacement (Land 121 Phase 3B)*. The audit was conducted in accordance with the authority contained in the *Auditor-General Act 1997*. I present the report of this audit to the Parliament.

Following its presentation and receipt, the report will be placed on the Australian National Audit Office's website—<http://www.anao.gov.au>.

Yours sincerely

A handwritten signature in black ink, reading 'Grant Hehir', is positioned above the printed name and title.

Grant Hehir
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

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Abbreviations

ADF	Australian Defence Force
ADTEO	Australian Defence Test and Evaluation Organisation
ANAO	Australian National Audit Office
C4I	Command, Control, Communications, Computer and Intelligence
CDG	Capability Development Group
CEO	Chief Executive Officer
COTS	Commercial off-the-shelf
Defence	Department of Defence
DMO	Defence Materiel Organisation
DSTO	Defence Science and Technology Organisation
DT 871	Defence Trial 871
FMA Act	<i>Financial Management and Accountability Act 1997</i>
ILHS	Integrated Load Handling System
ITRI	Invitation to Register Interest
MOTS	Military off-the-shelf
ODRP	Offer Definition and Refinement Process
PGPA Act	<i>Public Governance, Performance and Accountability Act 2013</i>
RFT	Request for Tender
RMMV	Rheinmetall MAN Military Vehicles
RMMV-A	Rheinmetall MAN Military Vehicles–Australia

Summary and Recommendation

Summary

Introduction

1. Project Overlander Land 121 is a multi-phased project to provide the Australian Defence Force (ADF) with new field vehicles and trailers to enhance ground mobility. Phase 3B¹ of the project is to acquire medium and heavy trucks, modules and trailers, at a budgeted cost of \$3.386 billion. The vehicles are a core element of ADF capability, and essential for the conduct of operations. They will be used for the movement of Army troops, assets and supplies in combat theatres, humanitarian operations, natural disaster relief, general peacetime operations and training.

2. Land 121 Phase 3 received government first-pass² approval in June 2004. At the time, the Department of Defence (Defence) considered that the medium and heavy vehicle acquisition was a relatively low risk military off-the-shelf (MOTS) procurement. Defence originally released a Request for Tender (RFT) for the medium and heavy vehicle segment in December 2005, but decided to retender in December 2008, due to concerns over the selected vehicles. Key milestones for the acquisition included:

- in August 2007, Defence received government second-pass approval to enter negotiations with Stewart and Stevenson³ as the supplier for the Phase 3B vehicles and modules, and with Haulmark Trailers for the Phase 3B trailers;
- in August 2008, Defence withdrew from negotiations with Stewart and Stevenson, citing technical and probity issues, and a tender resubmission process was initiated;
- in April 2011, Defence endorsed Rheinmetall MAN Military Vehicles–Australia (RMMV-A) as the preferred supplier for the vehicles and

1 Phase 3B forms the medium and heavy field vehicle, module and trailer component of Project Overlander LAND 121. Other current phases of Land 121 include Phase 3A light/lightweight vehicles; and Phase 4 Protected Mobility Vehicle. This report generally refers to Project Overlander LAND 121 Phase 3B as the medium and heavy vehicle fleet acquisition.

2 At the first-pass stage, government is provided with potential options to address a capability gap and approval is sought to develop specific options. The second-pass stage is intended to provide government with the necessary information to select both an acquisition and a through-life support option.

3 Stewart and Stevenson was acquired by BAE Systems on 31 July 2007.

modules, and Haulmark Trailers was confirmed as the preferred supplier for the provision of trailers; and

- in July 2013, Land 121 Phase 3B received a revised government second-pass approval and Defence entered into contracts with RMMV-A and Haulmark Trailers.

3. Defence is acquiring 2536 medium and heavy trucks, and 2999 modules, from RMMV-A; and 1582 trailers from Haulmark Trailers.⁴ The capability will comprise a variety of vehicles including semi-trailers, recovery trucks, hook lift trucks and flatbeds in both protected and unprotected configurations. Figure S.1 shows the RMMV-A heavy Integrated Load Handling System vehicle, which is replacing the Mack series of vehicles currently in-service.

Figure S.1: RMMV-A heavy Integrated Load Handling System vehicle



Source: Department of Defence.

4 However, the total number of vehicles being acquired under Phase 3B is 2707, following a decision to also acquire 122 Mercedes-Benz G-Wagon vehicles and 49 Thales Bushmaster vehicles.

4. The Chief of Army is the Capability Manager⁵ for the medium and heavy vehicle fleet, and Defence's Capability Development Group developed the capability proposals for the acquisition of the new fleet. The Defence Materiel Organisation's (DMO's) Land Systems Division has managed the medium and heavy vehicle fleet procurement processes, and has been responsible for the ongoing acquisition and the sustainment of the fleet.⁶

Audit objective and scope

5. The audit objective was to assess the effectiveness of Defence's management of the acquisition of medium and heavy vehicles, associated modules and trailers for the Australian Defence Force. The audit focused on the acquisition of the medium and heavy vehicle fleet from first-pass approval in 2004 through to early 2015.

6. The high-level criteria developed to assist in evaluating Defence's performance were:

- requirements definition, acquisition strategies and plans, and capability development processes met Defence policy and procedures;
- procurement processes complied with the *Financial Management and Accountability Act 1997* (FMA Act) and Regulations⁷, and other relevant Commonwealth and Defence procurement requirements; and
- the acquisition has progressed to the expectations of the Commonwealth in terms of cost, schedule and delivery of required capability.

Overall conclusion

7. Defence's Project Land 121 Phase 3B is to acquire 2536 medium and heavy trucks, 2999 modules and 1582 trailers for the ADF, at a cost of some \$3.4 billion. The new medium and heavy vehicle and trailer fleet will replace

5 Capability Managers are responsible for raising, training and sustaining capabilities agreed by the Government, through the coordination of the Fundamental Inputs to Capability (FIC). The FIC comprise the following inputs: personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management.

6 The Defence First Principles Review was released on 1 April 2015, and the Government accepted the Review's recommendation to disband the DMO and transfer its core responsibilities in relation to capability delivery to a new Capability Acquisition and Sustainment Group. See <http://www.defence.gov.au/Publications/Reviews/FirstPrinciples/>.

7 The FMA Act and Regulations were in place during the source selection processes for Land 121 Phase 3B. The FMA Act was replaced by the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and associated Rules, which took effect from 1 July 2014.

the ADF's aged in-service fleet, which includes certain vehicles acquired in the early 1980s. The vehicle and trailer fleet supports a wide range of ADF operations, and Defence aims to enhance ground mobility through the acquisition of modern vehicles and trailers. Defence contracted with Rheinmetall MAN Military Vehicles-Australia (RMMV-A) and Haulmark Trailers (Australia) to supply the vehicles, modules and trailers in July 2013—over nine years after first-pass approval⁸ was granted in 2004. As part of the acquisition process, Defence conducted an initial tender process in 2005–07 and a tender resubmission process in 2008–11.

8. Defence's initial tender process to acquire a replacement medium and heavy vehicle fleet was flawed, resulting in a failed tender and a second approach to market, which contributed to long delays in the acquisition of a modern medium and heavy vehicle capability for the ADF. Defence conducted a more effective tender resubmission process from 2008, but the process was protracted and Defence did not enter into contracts to supply the replacement fleet until July 2013. The aborted initial tender process and the time taken to finalise the tender resubmission process have delayed the scheduled achievement of Final Operational Capability by seven years to 2023. In the intervening period, Defence will continue to rely on an aged fleet of medium and heavy vehicles that is increasingly costly to operate, maintain and repair.

9. Defence originally considered that the medium and heavy vehicle acquisition was a relatively low risk military off-the-shelf procurement. The difficulties subsequently experienced by Defence in acquiring a new medium and heavy vehicle fleet can mostly be attributed to shortcomings in its initial tender process between 2005 and 2007. Defence did not conduct any preliminary test and evaluation of vehicles before recommending a single supplier to the then Government. In selecting a preferred supplier, Defence also did not have sufficient regard to all relevant costs and benefits identified in its tender evaluation process, so as to adhere to the Government's core principle of value

8 At the first-pass stage, government is provided with potential options to address a capability gap and approval is sought to develop specific options. The second-pass stage is intended to provide government with the necessary information to select both an acquisition and a through-life support option.

for money.⁹ Defence's 2007 Source Evaluation Report initially ranked a proposal from Stewart and Stevenson last of five tenders on the basis of value-for-money, but elevated the proposal to the position of preferred tender because it was the most affordable—notwithstanding Defence's assessment of significant vehicle deficiencies against its specific requirements, and the identification of many acquisition risks in the course of the tender process.¹⁰

10. Further, Defence did not advise Ministers of the significant capability and technical risks it had identified, before recommending a single supplier. Defence confirmed the previously identified shortcomings through test and evaluation after the acquisition entered an Offer Definition and Refinement Process, and the preferred supplier's vehicles were tested. Defence subsequently cancelled contract negotiations with the preferred supplier.

11. In December 2008, Defence again approached the market and implemented a more robust tender process, drawing on key lessons learned from the initial tender process. Defence conducted preliminary test and evaluation of vehicles supplied by five companies, before shortlisting three suppliers and asking them to submit tenders. In April 2011, Defence selected RMMV-A as its preferred vehicle supplier on the basis of value-for-money. However, the protracted Offer Definition and Refinement Process with RMMV-A required escalation to senior leaders and, as a consequence, Defence was not in a position to approach the then Government for second-pass approval¹¹ until July 2013.

12. In addition to shortcomings in the initial tender process, Defence has not applied a rigorous approach to capability definition throughout the acquisition of the medium and heavy vehicle fleet. Defence did not complete or update its mandated Capability Definition Documents for the initial and revised government second-pass approvals in 2007 and 2013, or when negotiating and entering into contractual arrangements. Defence also developed a variety of

9 The 2005 Commonwealth Procurement Guidelines in place at the time of second-pass approval in 2007 stated that:

Value for money is the core principle underpinning Australian Government procurement. In a procurement process this principle requires a comparative analysis of *all* relevant costs and benefits of each proposal throughout the whole procurement cycle (whole-of-life costing).

Department of Finance, *Commonwealth Procurement Guidelines—January 2005*, p. 10.

10 Haulmark Trailers was selected as the preferred tenderer for the trailer segment, based on its long association with Defence and its ability to meet Defence's requirements, and its contribution to the Australian industry requirements of the project.

11 See footnote 8.

non-standard documents to compensate for the absence of updated Capability Definition Documents; an approach which unnecessarily added to procurement risk.¹² In addition, Defence applied different methodologies over time to determine the acquisition's Basis of Provisioning, a process intended to measure the number of each vehicle type required by Army to meet its capability objectives. Further, Defence's Basis of Provisioning for the medium and heavy vehicle fleet has been amended on many occasions during the acquisition process to reflect the number of vehicles Defence could afford, rather than the number of vehicles it required to deliver the defined capability—a pragmatic approach which did not align with the key purpose of the Basis of Provisioning process. In the light of this experience, Defence should review its 1999 Instruction to provide contemporary guidance on the Basis of Provisioning for the acquisition of specialist military equipment for the ADF.

13. Defence advised the ANAO that as at March 2015, total expenditure on the medium and heavy vehicle fleet acquisition was \$112 million, with most expenditure to be incurred from mid-2016 when truck production commences.¹³ Defence further advised that there was sufficient budget remaining for the project to complete against its agreed scope, and the project had not applied any contingency funding to date. Under applicable budgeting arrangements, Defence is able to use approved funding later in the project, if it is not spent at the time initially anticipated due to project delays.

14. Defence remains confident that it will meet the acquisition's current critical milestones, the first being the commencement of Introduction Into Service Training in September 2016. Key issues that have affected the project since contract signature include: delays experienced by RMMV-A in engaging sub-contractors to develop modules; and a range of systems integration issues.

12 In May 2014, a Gate Review of Land 121 Phase 3B observed that 'disparate test planning and operational concept documents could lead to risks down the track'. Further, in May 2015, RMMV-A informed the ANAO that the lack of endorsed and up-to-date operational concepts made it more difficult to make informed trade-off decisions during the design process when there is a conflict between one or more requirements of the specifications.

13 At second-pass approval in 2007, Land 121 Phase 3 (combined light/lightweight, Bushmasters, and medium and heavy vehicles and trailers) had an approved budget of \$3.531 billion (outturned)—outturned prices are estimates adjusted to incorporate the expected rate of inflation. After the initial tender process, the light/lightweight and medium and heavy vehicle fleet acquisitions were split into separate projects—the medium and heavy vehicle fleet acquisition became Land 121 Phase 3B. At second-pass in 2013 the then Government approved funding for Land 121 Phase 3B of \$3.382 billion (outturned). Following indexation of costs, and some adjustments to the projects' scope, the current Land 121 Phase 3B budget is \$3.386 billion (outturned), and the current Land 121 Phase 3A budget is \$1.021 billion (outturned).

The ANAO has previously observed that cost and schedule risks tend to rise when acquisition programs approach the complex stage of systems integration¹⁴, and Defence will need to maintain a focus on managing the remaining integration issues. Defence has worked with RMMV-A to manage the vehicle production schedule and production of the initial test vehicles commenced in April 2015.

15. The overall project delay of seven years has obliged Defence to continue to operate its in-service fleet of vehicles, delivered between 1982 and 2003. The current fleet is becoming increasingly unreliable and costly to maintain, and Defence has sought to achieve savings by disposing of uneconomical vehicles. While Defence currently expects to deliver the project within budget, the audit illustrates the impact of protracted procurement and approval processes on both Defence and industry suppliers.¹⁵

16. Against a background of other major Land Systems acquisitions approaching key milestones¹⁶, this audit underlines the benefits of early test and evaluation of prospective vehicles, which strengthen Defence's ability to identify and mitigate risks, and provide informed advice for decision-making on a preferred supplier. Further, having commenced a tender process, Defence needs to keep in view the Government's core rule of achieving value-for-money, which continues to require consideration of relevant financial and non-financial costs and benefits of each proposal.¹⁷

17. The ANAO has made one recommendation focusing on the development of contemporary guidance on the Basis of Provisioning for the acquisition of Australian Defence Force specialist equipment, to provide greater certainty to Defence's assessments and advice on the type and quantity of materiel required to deliver a defined capability. Defence agreed to the recommendation.

14 ANAO Audit Report No.22 2013–14, *Air Warfare Destroyer Program*, p. 23.

15 Haulmark Trailers was initially selected as the preferred supplier for the Phase 3 trailer capability in 2007. Defence subsequently delayed contract signature with Haulmark Trailers for five years until the supplier for vehicles and modules was selected.

16 Land 121 Phase 4 (Protected Mobility Vehicle) is approaching second-pass approval, and Land 400 (Armoured Vehicles) received first-pass approval in February 2015.

17 Department of Finance, *Commonwealth Procurement Rules 2014*, pp. 11 and 13.

Key findings by chapter

Defining Medium and Heavy Vehicle Fleet Capability Requirements (Chapter 2)

18. The primary Defence Capability Definition Documents are: Operational Concept Documents¹⁸, Function and Performance Specifications¹⁹, and Test Concept Documents.²⁰ These documents form part of the second-pass capability proposal to government; and provide the basis for testing and evaluating whether a delivered capability meets operational requirements. In consequence, the documents need to accurately reflect the user's expectations of the system.²¹ As the largest Land Systems acquisition in decades and a core element of the ADF's land and peacetime operations capability, the acquisition of a new medium and heavy vehicle fleet required a capability definition process that reflected its importance and cost.

19. Defence developed Capability Definition Documents during the initial stages of the medium and heavy vehicle fleet acquisition process between 2004 and 2007, but did not complete or update them for the purpose of supporting government second-pass approval processes in 2007 and 2013, or when negotiating and entering into contracts in 2013. Defence instead developed a set of non-standard documents to inform contracts, design review processes and test and evaluation, contrary to Defence policy.²² In May 2014, a DMO

18 Operational Concept Documents are intended to inform system acquirers and developers of the ADF's operational requirements.

19 Function and Performance Specifications define ADF requirements of the system in terms of system functions, and how well those functions are to be performed.

20 Test Concept Documents provide an outline of the test strategy to be used to verify and validate that the design and operational requirements of the capability have been complied with.

21 It may be extremely costly to fix requirements or design defects found late in a project's design and test phase. This underscores the critical importance of systems engineering processes based on adequate Capability Definition Documents, particularly regarding user requirements specified in Operational Concept Documents and Function and Performance Specifications, and progressive verification of requirements compliance in accordance with Test Concept Documents.

22 These non-standard documents included a two page vehicle key requirements matrix; and System Specifications, which are normally developed by the successful contractor based on Defence's Function and Performance Specification.

Gate Review Board²³ observed that Defence's approach to developing Capability Development Documents for Land 121 Phase 3B could lead to risks down the track, particularly as staff rotate through the areas of Defence responsible for the acquisition. Defence's approach in this instance has also contributed to uncertainty for industry contractors in developing solutions, particularly for elements of the design that remain subject to change, and in relation to systems integration.

20. The Basis of Provisioning is a process for determining and recording the quantity of an asset that Army is required to hold in order to support preparedness and mobilisation objectives.²⁴ Adjustments to the Basis of Provisioning would normally be made to reflect a change in the capability requirements of Army, or a change in the capability characteristics of an asset. The difference between the number of assets listed in the Basis of Provisioning required to meet Army's capability requirements, and Army's actual number of assets, is the capability gap. In this respect, the Basis of Provisioning is expected to be an 'objective' measure of capability requirements, rather than a statement of the assets which can be acquired within an available budget.

21. While some adjustment can be expected as a result of tender and contract negotiation activities, the Basis of Provisioning for Land 121 Phase 3B has undergone numerous changes since 2004: in terms of the number and type of vehicles required; vehicle characteristics such as blast and ballistic protection; and module and trailer requirements. Defence applied different methodologies over time to develop the Basis of Provisioning, and more fundamentally, made significant adjustments to required vehicle numbers and types based on the availability of project funding—a pragmatic approach which did not align with the key purpose of the Basis of Provisioning process. Defence needs to maintain a clear view of any gap between the capability it requires to support preparedness and mobilisation objectives, and the affordable capability. However, the current *Defence Instruction (Army)* on the

23 Gate Reviews are an internal DMO assurance process for major capital acquisition projects. Gate Reviews involve a periodic assessment of a project at key milestones during a project's lifecycle by a DMO-appointed Gate Review Assurance Board. These periodic reviews provide an opportunity for senior DMO management to seek insight into a project's progress and for project staff to discuss difficult issues with senior management and seek their guidance. The Gate Review Board makes a recommendation regarding the progress of the project and develops a list of action items to address identified issues. DMO held its first two Gate Reviews in 2008 and they are now considered DMO's most prominent project assurance activity. See ANAO Audit Report 52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*.

24 Defence, *Defence Instruction (Army) 64-1 Basis of Provisioning*, December 1999, p. AL1.

Basis of Provisioning for Army capabilities was issued in 1999 and has not been updated. To provide greater certainty in the development of relevant Defence assessments and advice, Defence should develop contemporary guidance on how to calculate and maintain the Basis of Provisioning for specialist military equipment.

Initial Medium and Heavy Vehicle Fleet Tender Process (Chapter 3)

22. Defence released a Request for Tender (RFT) for the medium and heavy vehicle segment of Land 121 Phase 3 in December 2005.²⁵ Five vehicle suppliers responded to the RFT. However, Defence's Acquisition Strategy did not allow for any practical preliminary testing and evaluation of the vehicles proposed by the tenderers. Instead, Defence's assessment of the vehicles was limited to reviewing specifications provided by the tenderers.

23. Defence's August 2007 Source Evaluation Report initially ranked the tender response from Stewart and Stevenson last of the five tenders on the basis of value-for-money, and noted that the proposal exposed the Commonwealth to very high risk, including schedule risk, cost risk, quality and performance risk. Despite this assessment, Defence elevated the Stewart and Stevenson proposal to the position of preferred tenderer on the basis that it was the most affordable. Defence's decision exposed the Commonwealth to the potential acquisition of a fleet of vehicles assessed as failing to meet both key capability and technical requirements, introducing significant risk to the acquisition process. Defence also did not have sufficient regard to the 2005 *Commonwealth Procurement Guidelines*, then in operation, which established value-for-money as the core principle underpinning Australian Government procurement and made clear that this principle required an analysis of all relevant costs and benefits of each proposal, in addition to financial cost.

24. Defence's Acquisition Strategy was to provide the then Government with a shortlist of two preferred suppliers for second-pass approval, and to subsequently conduct an Offer Definition and Refinement Process (ODRP) to determine the most suitable supplier. However, at the second-pass approval stage in August 2007, Defence diverted from its Acquisition Strategy and recommended that only one medium and heavy vehicle supplier (Stewart and

25 A further RFT was issued for the light/lightweight vehicle segment.

Stevenson) proceed to the ODRP.²⁶ This revised approach was adopted notwithstanding that Defence had not at that stage conducted any preliminary on or off-road vehicle testing.²⁷ Further, Defence did not advise the Government about the assessed risks, mentioned above in paragraph 23, relating to the preferred proposal.

25. As the acquisition entered the ODRP phase, Defence identified two key issues which eventually led to: the cancellation of negotiations with Stewart and Stevenson; and a tender resubmission process for the medium and heavy vehicle fleet. The first issue related to whether Stewart and Stevenson would be able to satisfy government requirements for a mixed fleet of military off-the-shelf (MOTS) and commercial off-the-shelf (COTS) vehicles. While Defence had expected the then Government to approve procurement of a MOTS fleet, the Government decided in August 2007 to procure a mixture of MOTS and COTS vehicles, necessitating a change in the Basis of Provisioning.²⁸ This meant that the information on the required number and type of vehicles, provided to suppliers when the tender was released in December 2005, was no longer current. Concerns subsequently emerged within Defence that Stewart and Stevenson may not be able to satisfy the new requirements of the Basis of Provisioning because the company did not make MOTS prime mover variants, now under consideration. A second key issue related to deficiencies in the detailed vehicle specifications provided by Stewart and Stevenson in November 2007, as compared to data provided for the tender evaluation process.^{29,30}

26 Haulmark Trailers, the only trailer supplier to provide a response to the RFT, was selected as the preferred supplier of trailers.

27 During the 2005–2007 tender process, there were no mandated Defence policies to conduct testing and evaluation of capability solutions prior to second-pass. In contrast, the current version of the *Defence Capability Development Manual 2014* (Chapter 2, paragraph 2.1) mandates test and evaluation prior to second-pass approval:

... reviews of Defence projects that have failed or substantially not achieved their anticipated schedules, costs or capability requirements universally recommend earlier test and evaluation to determine the real risks as early as possible. Later Test and Evaluation (T&E) around materiel acceptance or acceptance into operational service, while important to mitigate and safely work around issues, fundamentally aims to confirm conformance to technical and operational requirements. Preview T&E is to be employed to identify risks early enough to find or develop more appropriate capabilities and systems, or at least allocate appropriate additional contingency funding or adjust projected schedules and will be an integral part of the pre-first and pre-second pass capability phases.

28 Defence's preferred option at second-pass was to acquire a MOTS fleet at a cost of \$6.6 billion. However, the then Government approved the acquisition of a combined MOTS and COTS fleet at a cost of \$3.5 billion, with the option to possibly acquire more vehicles at a later stage at an anticipated cost of \$1.8 billion.

29 Defence took advice from a probity adviser on both key issues.

26. In February 2008, DMO proceeded to demonstration and compliance testing of the Stewart and Stevenson MOTS vehicles. The testing confirmed significant deficiencies in the vehicle's capability against Defence requirements, and inconsistencies between the test vehicle dimensions and specifications, compared to those originally documented in the tender response. After seeking advice from the Defence probity adviser, Defence cancelled negotiations with Stewart and Stevenson in May 2008.

Medium and Heavy Vehicle Fleet Tender Resubmission (Chapter 4)

27. After withdrawing from negotiations with Stewart and Stevenson in May 2008, Defence obtained government approval in July 2008 to return to the market for revised offers for the medium and heavy vehicle fleet. Defence recognised the shortcomings in its first (2005–2007) tender process, and decided to conduct preliminary testing of vehicles, before inviting a shortlist of suppliers to submit tenders.

28. The first stage of the tender resubmission process involved comparative evaluation testing of prospective vehicles by the Australian Defence Test and Evaluation Office (ADTEO) in 2009.³¹ The preliminary testing included a technical evaluation against requirements, driver training and on/off-road testing. The ADTEO testing eliminated vehicles from the tender resubmission process that did not meet Defence's capability needs, including those proposed by Stewart and Stevenson. Vehicles submitted by RMMV-A, Mercedes-Benz and Thales proceeded to the second stage of the process.

29. In May 2010, Defence released an RFT to the shortlisted vehicle suppliers. Each of the firms provided a response by the due date in August 2010, and Defence evaluated the responses to determine the most competitive

30 BAE Systems (which acquired Stewart and Stevenson in July 2007) informed the ANAO in May 2015, that:

Stewart and Stevenson offered essentially its [United States of America] military off-the-shelf Family of Medium Tactical Vehicles (FMTV) models, unmodified in order to keep costs low. The FMTV vehicles are well characterised, and whose performance has been well documented and well known by the [United States of America] Army in its acquisition of over 70 000 FTMV vehicles before and since Project Overlander.

The [2005 Request for Tender] included a bespoke vehicle specification written by DMO which incorporated extensive use of Australian standards. The RFT specification required COTS/MOTS vehicles previously developed to international standards to have their manufacturer's product specifications analysed for compliance to unique Australian standards.

31 ADTEO is a joint internal organisation that delivers expert Test and Evaluation (T&E) support to Defence. The mission of the ADTEO is to deliver independent T&E support to Defence.

tender representing the best value-for-money. RMMV-A was ranked first or second against all of the selection criteria, including capability, support and schedule, and overall risk. Selecting RMMV-A also offered the Commonwealth the highest number of vehicles and modules within budget constraints. Defence's Source Evaluation Report concluded that RMMV-A was Defence's preferred capability solution.

30. Defence received interim-pass approval³² from the then Government in December 2011 to commence an Offer Definition and Refinement Process (ODRP) with RMMV-A. As part of the ODRP, Defence was expected to address several compliance issues arising from RMMV-A's tender before obtaining second-pass approval. Overall, the quality of Defence's advice to Ministers at interim-pass was an improvement on the advice provided for the initial second-pass process in 2007. Defence provided a more thorough justification for the selection of its preferred tenderer, RMMV-A, and provided comparative information relating the RMMV-A proposal to those received from the other two tenderers. Further, Defence's advice to Ministers was more soundly based, due largely to the vehicle testing undertaken by ADTEO during 2009.

31. The ODRP discussions with RMMV-A became protracted during 2012, and culminated in a February 2013 meeting between the CEOs of DMO and RMMV-A's parent company³³ to address outstanding issues. The negotiations between Defence and RMMV-A concluded in March 2013, some 14 months after the commencement of the ODRP. Defence subsequently received second-pass approval from Ministers in July 2013 to acquire the medium and heavy vehicles from RMMV-A, and Haulmark Trailers was again confirmed as the trailer supplier. Defence signed contracts with RMMV-A and Haulmark Trailers in July 2013, and entered into a strategic agreement with the two suppliers for the possible further delivery of vehicles and trailers under Phase 5B of LAND 121—however, no guarantees relating to the supply of vehicles and trailers under Phase 5B were provided to the suppliers under this agreement.

32 Interim-pass approval is an option available to Defence for certain programs which carry significant levels of risk. This occurs between the first and second-pass approval submissions. This process enables the Government to make incremental decisions at key project milestones and for Defence to obtain direction from the Government in relation to changes in strategic circumstances. For the medium and heavy vehicle acquisition, the 2007 second-pass approval had effectively been revoked as a result of the tender resubmission process.

33 RMMV-A's parent company is Rheinmetall MAN Military Vehicles, which is based in Germany.

Acquisition Status and Sustainment (Chapter 5)

32. After finalising contracts with RMMV-A and Haulmark Trailers in July 2013, Defence and the two suppliers agreed on design review processes. By April 2015, Defence had conducted Preliminary Design Reviews for most of the vehicle and module variants, and two of the ten trailer variants. The design reviews considered two key acquisition risks: the interoperability of the vehicles, modules and trailers; and the integration of Command, Control, Communications, Computer and Intelligence (C4I) systems into the vehicles.³⁴ Defence is responsible for ensuring the medium and heavy vehicles and trailers are interoperable with each other, and has established an Integrated Control Working Group to identify the information required by contractors for this purpose. RMMV-A has engaged a contractor to help resolve anticipated electromagnetic interference when the C4I systems are integrated with the medium and heavy vehicles.

33. There has been an overall project delay of seven years. When Ministers first provided second-pass approval for the earlier acquisition proposal in 2007, the replacement medium and heavy fleet was scheduled to achieve Final Operational Capability in 2016. The aborted initial tender process and the need for a tender resubmission process have delayed the scheduled achievement of Final Operational Capability to 2023. The delays in the medium and heavy fleet acquisition have placed considerable pressure on the existing Unimog and Mack vehicle fleet, which has now well exceeded its life-of-type and is increasingly difficult and costly to maintain. Defence has reduced the overall size of the in-service fleet since 2010, by disposing of vehicles which were uneconomical to maintain; a process with attributed savings of \$9.837 million since 2011–12. Despite removing uneconomical vehicles, the average sustainment cost per vehicle for the Mack fleet has increased by some 80 per cent between 2009–10 and 2013–14, reflecting the advanced age of the fleet and difficulty in acquiring spare parts. In 2013–14, the average cost of sustaining Unimog vehicles was \$10 652; and \$27 899 for Mack vehicles.³⁵ Defence informed Ministers in July 2013 that the Mack fleet will have difficulty supporting some of Defence's

34 Command, Control, Communications, Computer and Intelligence (C4I) systems are a key component to enable Network Centric Warfare.

35 Some vehicle variants are more expensive to maintain than others. For example, the average cost of sustaining Unimog variants ranged from \$1724 to \$59 376; and for Mack vehicles the average cost per variant ranged from \$5416 to \$103 092.

operational requirements from 2016, underlining the importance of delivering the new fleet as scheduled.

Summary of entities' responses

34. The Department of Defence's summary response is provided below. The trailer supplier, Haulmark Trailers (Australia) and the unsuccessful 2007 tenderer, BAE Systems Australia, also provided summary responses. RMMV-A elected not to provide a formal response for publication. Appendix One contains the full responses to the audit report.

Department of Defence

Defence welcomes the ANAO audit report on the Australian Defence Force's Medium and Heavy Vehicle Fleet Replacement (Land 121 Phase 3B). This report highlights the importance of acquiring the medium and heavy trucks, modules and trailers to replace the Australian Defence Force's (ADF) aging in-service fleet which is approaching life-of-type.

The report accurately highlights the challenges that Defence faced during the initial tender process in 2005-2007, which resulted in delays to the acquisition of a replacement capability. Defence acknowledged the issues and concerns around technical and probity issues, and subsequently in 2008-2013, conducted a more effective tender resubmission process.

More recently, Defence has ensured that operational concepts were clearly defined and communicated. Whilst there may be elements of the design which the contractors have yet to finalise, Defence is working with these contractors to deliver the capability to meet ADF requirements.

Whilst Defence agrees with the intent of the one recommendation, we reinforce that value for money is a key consideration during every tender process. Defence will review its policy on Basis of Provisioning to ensure it is current and applicable in the acquisition of specialist military equipment. The residual issues that ANAO have identified will be addressed when the capability development acquisition life cycle is redesigned as part of the First Principles Review implementation.

BAE Systems Australia (Stewart and Stevenson)

Stewart and Stevenson offered essentially its [United States of America] military of-the-shelf Family of Medium Tactical Vehicles (FMTV) models, unmodified in order to keep costs low. The FMTV vehicles are well characterised, and whose performance has been well documented and well

known by the [United States of America] Army in its acquisition of over 70 000 FTMV vehicles before and since Project Overlander.

The [2005 Request for Tender] included a bespoke vehicle specification written by DMO which incorporated extensive use of Australian standards. The RFT specification required COTS/MOTS vehicles previously developed to international standards to have their manufacturer's product specifications analysed for compliance to unique Australian standards.

Haulmark Trailers (Australia)

After reviewing the audit report excerpts, Haulmark Trailers (Australia) Pty Ltd has generally found them to be a fair and reasonable depiction of events over the period covered by the audit.

Haulmark also wishes to acknowledge that we were only provided with excerpts of the report that related to us and as such we could not comment on the report holistically.

Recommendation

Recommendation No. 1

Paragraph 2.32

To provide greater certainty in the development of relevant assessments and advice, the ANAO recommends that Defence develop contemporary guidance on the Basis of Provisioning for the acquisition of specialist military equipment for the Australian Defence Force.

Defence response: *Agreed*

Audit Findings

1. Introduction

This chapter introduces Project Overlander Land 121 Phase 3B, which is acquiring medium and heavy field vehicles, modules and trailers for the Australian Defence Force. It also outlines the audit approach.

Project Overlander

1.1 Project Overlander Land 121 is a multi-phased project to provide the Australian Defence Force (ADF) with new field vehicles and trailers to enhance ground mobility. Phase 3B³⁶ of the project is to acquire medium and heavy trucks, modules³⁷ and trailers, at a budgeted cost of \$3.386 billion. The vehicles are a core element of ADF capability, and essential for the conduct of operations. They will be used for the movement of Army troops, assets and supplies in combat theatres, humanitarian operations, natural disaster relief, general peacetime operations and training.

1.2 The Department of Defence (Defence) is acquiring 2536 medium and heavy trucks, and 2999 modules, from RMMV-A; and 1582 trailers from Haulmark Trailers.³⁸ The capability will comprise a variety of vehicles including semi-trailers, recovery trucks, hook lift trucks and flatbeds in both protected and unprotected configurations. Figure 1.1 shows the RMMV-A medium weight truck being acquired under Land 121 Phase 3B.

1.3 The new medium and heavy vehicles will replace vehicles such as the Mercedes-Benz Unimog (Figure 1.2), Mack, and S-Liner trucks. The in-service vehicles and trailers were delivered to the ADF between 1967 and 2003, and their nominal life-of-type³⁹ ended between 1982 and 2013. The fleet has experienced heavy operational use since 1999, and has been increasingly costly

36 Phase 3B forms the medium and heavy field vehicle, module and trailer component of Project Overlander Land 121. Other current phases of Land 121 include Phase 3A light/lightweight vehicles; and Phase 4 Protected Mobility Vehicle. This report generally refers to Project Overlander Land 121 Phase 3B as the medium and heavy vehicle fleet acquisition.

37 Modules are the containers carried by the medium and heavyweight trucks. The various module types include: stores; flat rack; water pump; fuel pump; communications; maintenance; and combat engineer stores.

38 However, the total number of vehicles being acquired under Phase 3B is 2707, following a decision to also acquire 122 Mercedes-Benz G-Wagon vehicles and 49 Thales Bushmaster vehicles.

39 Life-of-type is the estimated time, for planning purposes, that an item will remain a current capability requirement, and the end-date represents a nominal estimate of when the item will be no longer be economically supportable.

to maintain, repair and operate. The fleet also lacks protection and safety features common to contemporary military field vehicles.

Figure 1.1: Rheinmetall MAN medium weight truck



Source: Department of Defence.

Figure 1.2: Mercedes-Benz Unimog medium weight truck



Source: Department of Defence.

1.4 The major differences in vehicle capability between the in-service and replacement fleet are summarised in Table 1.1.

Table 1.1: Capability differences between the in-service and new vehicles

Legacy medium and heavy trucks	New medium and heavy trucks
Maximum payload of 4–10 tonnes	Maximum payload of 5–16 tonnes
No Integrated Load Handling System (ILHS)	ILHS on most heavy vehicles
No ballistic/blast protection	All models will have ballistic/blast protected variants
No C4I ^A systems	All vehicles will be fitted for C4I systems
No/limited weapons systems	Some vehicles may be fitted for integrated weapons systems

Source: Department of Defence documents.

Note A: Command, Control, Communications, Computer and Intelligence (C4I) systems are a key component to enable Network Centric Warfare.

1.5 Land 121 Phase 3⁴⁰ received government first-pass⁴¹ approval in June 2004. At the time, the Department of Defence (Defence) considered that the medium and heavy vehicle acquisition was a relatively low risk military off-the-shelf (MOTS) procurement. Defence originally released a Request for Tender (RFT) for the medium and heavy vehicle segment in December 2005, but decided to retender due to concerns over the selected vehicles. The history of the project is summarised in Table 1.2.

Table 1.2: Timeline for Land 121 Phase 3B

Year	Month	Activity
2004	June	Government first-pass approval.
2005	December	Defence released a Request for Tender (RFT) for the medium and heavy vehicle segment.
2007	August	Defence endorsed Stewart and Stevenson ⁴² as the preferred supplier for the Phase 3B vehicles and modules, and Haulmark Trailers for the Phase 3B trailers.
		Government second-pass approval.

40 Land 121 Phase 3 includes the acquisition of both the light/lightweight vehicles and the medium and heavy vehicles.

41 At the first-pass stage, government is provided with potential options to address a capability gap and approval is sought to develop specific options. The second-pass stage is intended to provide government with the necessary information to select both an acquisition and a through-life support option.

42 Stewart and Stevenson was acquired by BAE Systems on 31 July 2007.

Year	Month	Activity
2008	July	The then Minister for Defence agreed to seek revised offers for the medium and heavy vehicle fleet.
	August	Defence withdrew from negotiations with Stewart and Stevenson, citing technical and probity issues, and a two-stage tender resubmission process was initiated.
	December	Stage 1 of the tender resubmission process was approved. The Conditions of Tender were amended and vehicle Comparative Evaluation Testing commenced to inform the down-selection of tenderers to proceed to Stage 2.
2010	February	The then Minister for Defence announced a down-selection of tenderers to proceed to Stage 2 of the tender resubmission process.
	May	Stage 2 of the tender resubmission process commenced with the issue of an amended RFT to the down-selected tenderers (Mercedes-Benz, RMMV-A and Thales Australia).
2011	April	Defence endorsed RMMV-A as the preferred supplier for the vehicles and modules, and Haulmark Trailers was confirmed as the preferred supplier for the provision of trailers.
	December	Government interim-pass ^A approval.
2012	June	Defence and the Defence Materiel Organisation (DMO) signed the Materiel Acquisition Agreement for Land 121 Phase 3B.
2013	July	Revised second-pass approval from government.
		Defence signed a contract with RMMV-A for the provision of Phase 3B vehicles and modules, and a contract with Haulmark Trailers for the Phase 3B trailer component.
2014	January–December	Preliminary and Critical Design Reviews were held for some vehicles, modules and trailers.
2015	February–May	Further Critical Design Reviews for vehicles and modules. Acceptance, Verification and Validation activities for some trailers commenced at Monegeetta, Victoria. ^B

Source: ANAO based on Department of Defence documents.

Note A: More complex projects with high degrees of cost and/or capability risk or requiring significant financial commitment may return for interim-pass decisions between first and second-pass. This process enables the Government to make incremental decisions at key project milestones and for Defence to obtain direction from the Government.

Note B: Verification is a process for proving that the product design satisfies its immediate requirements. Validation involves ensuring that the implementation of the product aligns with the intended purpose.

1.6 When the then Government gave the initial second-pass approval in 2007, the replacement medium and heavy vehicle fleet was scheduled to achieve Final Operational Capability in 2016. However, by the time the project received a

revised second-pass approval in 2013, Final Operational Capability was scheduled for 2023, some seven years later.⁴³

Roles and responsibilities

1.7 The following areas of Defence have had responsibility for the medium and heavy vehicle and trailer fleet acquisition:

- **Chief of Army** is the Capability Manager for the vehicle and trailer fleet.⁴⁴ Capability Managers are responsible for raising, training and sustaining capabilities agreed by the Government, through the coordination of the Fundamental Inputs to Capability.⁴⁵
- **DMO's Land Systems Division** has had responsibility for the acquisition and sustainment of in-service vehicle and trailer fleet.⁴⁶
- **Capability Development Group (CDG)** developed the capability proposals for the acquisition of the vehicle and trailer fleet, taking into account strategic priorities, funding guidance, legislation and policy. CDG's Australian Defence Test and Evaluation Organisation (ADTEO) conducted preliminary Test and Evaluation of vehicles, and is also supporting the conduct of Operational Test and Evaluation on behalf of Chief of Army to inform declaration of Operational Capability.

Previous reviews of the medium and heavy vehicle acquisition

1.8 The ANAO Major Projects Report has reviewed the status of the medium and heavy vehicle acquisition annually since 2009–10. In these reports, DMO has identified that the major risks and issues for the acquisition include:

43 In the 2004 first-pass submission, Defence 'considered it achievable' to have an In-Service Date of late 2009 for the bulk of the vehicles, modules and trailers to be delivered to one high readiness Battalion Group.

44 While the Australian Regular Army is the principal operator and beneficiary of the field vehicle capability, the Army Reserve and Royal Australian Air Force also utilise the vehicles, modules and trailers.

45 Achieving a capability requires more than purchasing equipment. A capability is provided by one or more systems, and is made up of the combined effect of multiple inputs. The inputs are known as the Fundamental Inputs to Capability (FIC). The FIC comprise the following inputs: personnel; organisation; collective training; major systems; supplies; facilities and training areas; support; and command and management.

46 The Defence First Principles Review was released on 1 April 2015, and the Government accepted the Review's recommendation to disband DMO and transfer its core responsibilities in relation to capability delivery to a new Capability Acquisition and Sustainment Group. See <http://www.defence.gov.au/Publications/Reviews/FirstPrinciples/>.

- vehicle protection requirement changes resulting from operational lessons;
- the affordability of the capability within a capped budget process;
- the need to acquire and integrate a range of developmental modules;
- axle weight limits imposed by state and territory authorities, which have the potential to restrict how vehicles will be operated on public roads;
- overall vehicle weights of three vehicle/trailer combinations exceeding legislative limits when fully laden;
- changes to system specifications which may lead to contract change proposals;
- coordinating the efforts of two separate prime contractors (that is, for the vehicles and trailers) to deliver a complete mission system; and
- the integration of new command, control, communications, computer and intelligence (C4I) systems into the vehicles and modules.⁴⁷

Commonwealth Procurement Framework

1.9 Until 30 June 2012, the Commonwealth Procurement Guidelines (CPGs), issued by the Finance Minister under the Financial Management and Accountability Regulations 1997, established the core procurement policy framework and outlined the Government's expectations for departments and agencies in relation to procurement. The CPGs formed part of the wider financial management framework established by the *Financial Management and Accountability Act 1997* (FMA Act) and focused on achieving value for money through the efficient, effective, economical and ethical use of public resources, and ensuring accountability and transparency in government procurement activities.

1.10 The 2005 CPGs were applicable⁴⁸ in August 2007 at second-pass approval for the medium and heavy vehicle fleet acquisition, and the 2008 CPGs were

47 ANAO Report No.17, 2010–11, *Major Projects Report 2009–10*, p. 197; ANAO Report No.20, 2011–12, *Major Projects Report 2010–11*, p. 236; ANAO Report No.15, 2012–13, *Major Projects Report 2011–12*, p. 245; and ANAO Report No.14, 2014–15, *Major Projects Report 2013–14*, p. 239.

48 On 1 July 2012, the Commonwealth Procurement Rules (CPRs) replaced the CPGs. The CPRs reflect the CPGs in that they also require procurements to represent value for money for the Commonwealth, and encourage competition in procurement.

applicable in December 2011 for the interim-pass approval following the tender resubmission process. Both the 2005 and 2008 CPGs provided that:

Value for money is the core principle underpinning Australian Government procurement. In a procurement process this principle requires a comparative analysis of *all* relevant costs and benefits of each proposal throughout the whole procurement cycle (whole-of-life costing).⁴⁹

Mandatory Procurement Procedures (MPP)

1.11 Division 2 of the 2005 and 2008 CPGs referred to Mandatory Procurement Procedures (MPPs) which applied to procurements known as ‘covered procurements’. Division 2 also described the procurement methods available in government procurement and when to use those methods:

- *Open Tendering*—involved publishing an RFT and receiving all submissions delivered by the deadline;
- *Select Tendering*—involved issuing an invitation to tender to those potential suppliers selected from an existing multi-use list; a list of suppliers that responded to a request for expressions of interest; or suppliers that complied with an essential legal requirement or licensing arrangement; and
- *Direct Sourcing*—where an agency may invite potential suppliers of its choice to make submissions. Generally, direct sourcing was only allowed under specific circumstances or where it was the only practical alternative available to the agency.

Defence and DMO specific exemptions

1.12 While the MPPs were designed to encourage competition and, therefore, enhance value for money outcomes, Paragraph 2.7 of the 2008 CPGs⁵⁰ provided a general exemption clause:

Nothing in any part of these CPGs prevents an agency from applying measures determined by their Chief Executive to be necessary: for the maintenance or restoration of international peace and security; to protect human health; for the protection of essential security interests; or to protect national treasures of artistic, historic or archaeological value. Applying such measures does not

49 Department of Finance, *Commonwealth Procurement Guidelines—January 2005*, p. 10.

50 Also reflected in paragraph 8.2 of the 2005 CPGs.

diminish the responsibility of Chief Executives under section 44 of the FMA Act to promote the efficient, effective and ethical use of Commonwealth resources.⁵¹

1.13 This exemption was, and continues to be used⁵² by Defence in the procurement of the majority of its military specific equipment, including the vehicles, modules and trailers to be acquired under Land 121 Phase 3B.

About the audit

1.14 The audit objective was to assess the effectiveness of Defence's management of the acquisition of medium and heavy vehicles, associated modules and trailers for the Australian Defence Force.

1.15 The high-level criteria developed to assist in evaluating Defence's performance were:

- requirements definition, acquisition strategies and plans, and capability development processes met Defence policy and procedures;
- procurement processes complied with the *Financial Management and Accountability Act 1997* (FMA Act) and Regulations⁵³, and other relevant Commonwealth and Defence procurement requirements; and
- the acquisition has progressed to the expectations of the Commonwealth in terms of cost, schedule and delivery of required capability.

1.16 The audit focused on the acquisition of the medium and heavy vehicle fleet from prior to government first-pass approval in 2004 through to early 2015. The ANAO examined Defence's requirements definition; planning and budgeting; procurement processes including industry solicitation; advice to government; project management; and project performance in terms of cost, schedule and capability.

1.17 The ANAO examined a broad range of documentation pertaining to the medium and heavy vehicle acquisition, including planning documents, tender documents, contracts, ministerial advice, and acquisition progress reports. The ANAO also held discussions with the two major contractors involved in the acquisition: RMMV-A and Haulmark Trailers.

51 Department of Finance and Deregulation, *Commonwealth Procurement Guidelines*, 2008, p. 4

52 This exemption was retained in the CPRs, applicable for the revised second-pass approval in July 2013.

53 The FMA Act and Regulations were in place during the source selection processes for Land 121 Phase 3B. The FMA Act was replaced by the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and associated Rules, which took effect from 1 July 2014.

1.18 The audit was conducted in accordance with the ANAO auditing standards at an approximate cost to the ANAO of \$543 720.

Report structure

1.19 The remainder of the report is structured as follows:

Table 1.3: Chapter structure of the report

2. Defining Medium and Heavy Vehicle Fleet Capability Requirements
Examines the capability definition processes undertaken by Defence for the acquisition of the medium and heavy vehicle fleet.
3. Initial Medium and Heavy Vehicle Fleet Tender Process
Examines the initial medium and heavy vehicle fleet tender process conducted between 2005 and 2007, including industry solicitation, the tender evaluation and advice to government.
4. Medium and Heavy Vehicle fleet Tender Resubmission
Examines the medium and heavy vehicle fleet tender resubmission process conducted in 2008, including industry solicitation, the tender evaluation and advice to government.
5. Acquisition Status and Sustainment
Examines the status of the medium and heavy vehicle fleet acquisition. It also examines the availability and sustainment of the in-service medium and heavy vehicle fleet.

2. Defining Medium and Heavy Vehicle Fleet Capability Requirements

This chapter examines the capability definition processes undertaken by Defence for the acquisition of the medium and heavy vehicle fleet.

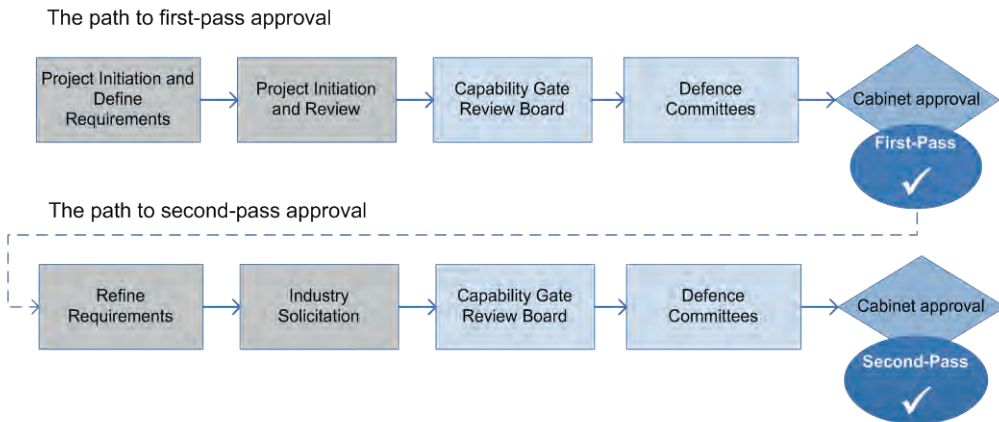
Introduction

2.1 Defence's acquisition of a new medium and heavy vehicle and trailer fleet commenced as early as 2001 and was ongoing in mid-2015. During this period, there has been significant reform in Defence's approach to capability development. The implementation of defined systems engineering processes has been central to the reform process, involving capability requirements definition, system design reviews, progressive test and evaluation, and verification of compliance with specified requirements.

2.2 Capability definition processes operate within the two-pass approval framework for major Defence acquisition projects (illustrated in Figure 2.1). The primary objective of two-pass approval is to give the Australian Government visibility of, and control over, capability development with sufficient information, and in good time, so that it can make informed and deliberate decisions on each project.⁵⁴ At the first-pass stage, the Government is provided with potential options to address a capability gap and approval is sought to develop specific options. The second-pass stage is intended to provide Ministers with the necessary information to select both an acquisition and a through-life support option.

54 ANAO Audit Report No.6 2013–14, *Capability Development Reform*, p. 140.

Figure 2.1: Two-pass approval process



Source: ANAO based on Department of Defence guidance.

2.3 Defence acquisitions subject to the two-pass approval process have been examined in several ANAO audits and other external reviews.⁵⁵ A common theme of these audits and reviews has been that inadequate capability requirements definition can have significant consequences in terms of project cost, schedule, and delivery of the intended capability.

2.4 In this chapter, the ANAO examines:

- the composition of the ADF's in-service medium and heavy vehicle and trailer fleet;
- the development of Capability Definition Documents for the medium and heavy vehicle and trailer fleet acquisition;
- the vehicle and trailer capability proposed by Defence; and
- the calculation of the number and type of vehicles, modules and trailers required by Defence, referred to as the Basis of Provisioning.

In-service medium and heavy vehicle fleet

2.5 The medium and heavy vehicle and trailer fleet is the backbone of the ADF's land warfighting support, sustainment, deployment and redeployment

⁵⁵ More recent reports include: ANAO Audit Report No.6 2013–14, *Capability Development Reform*; and ANAO Audit Report No.52 2013–14, *Multi-Role Helicopter Program*. See also Senate Foreign Affairs, Defence and Trade References Committee, *Procurement Procedures for Defence Capital Projects, Final Report*, August 2012.

structure. The fleet is used to transport personnel, combat supplies, materiel and replacement combat systems, and to evacuate casualties. The vehicles also serve as platforms and prime movers for weapon systems and Command, Control, Communications, Computer and Intelligence (C4I) systems.

2.6 At first-pass approval in June 2004, the in-service fleet consisted of vehicles from seven manufacturers, and included 78 vehicle variants and 27 trailer variants. Defence advised the then Government that the fleet's diversity imposed a major support burden, and resulted in complex training requirements and associated costs. Defence also advised the Government that the in-service fleet was costly to maintain, difficult to repair and operate, and presented safety risks due to the age of the vehicles. Table 2.1 lists the delivery dates for vehicles and trailers in the in-service fleet, and their nominal life-of-type.⁵⁶

Table 2.1: In-service medium and heavy vehicle fleet

Vehicle type	Delivery date	Nominal life-of-type
Mack R series 6x6	1982–1986	1997–2001
Mercedes-Benz Unimog	1982–1991	1997–2006
International S-Line	1987–1989	1997–1999
Mack CH Fleetliner	1999–2000	2009–2010
Scania P114 CB	2002–2003	2012–2013
Medium Trailer	1967–1989	1982–2004
Heavy Trailer	1968–1988	1998–2008

Source: Department of Defence.

2.7 The medium and heavy vehicles and trailers have experienced heavy operational use since 1999, and delays in replacing the fleet have led to increasing maintenance costs.⁵⁷

56 Life-of-type is the estimated time, for planning purposes, that an item will remain a current capability requirement, and the end-date represents a nominal estimate of when the item will be no longer economically supportable.

57 Chapter 5 examines sustainment of the in-service medium and heavy vehicle fleet.

Capability definition process

Key documents

2.8 Since 2002, Defence has provided guidance on capability requirements definition through a number of handbooks and manuals, with new measures added over time to strengthen the process. Defence guidance has been reinforced by a series of Defence Instructions, which include formal requirements applying to Defence personnel involved in ADF capability development. Under the capability definition framework, the primary ADF Capability Definition Documents are:

- *Operational Concept Documents*, which are intended to inform system acquirers and developers of the ADF's operational requirements;
- *Function and Performance Specifications*, which define ADF requirements of the system in terms of system functions, and how well those functions are to be performed⁵⁸; and
- *Test Concept Documents*, which provide an outline of the test strategy to be used to verify and validate that the design and operational requirements of the capability have been complied with.⁵⁹

2.9 These documents are developed during a project's requirements definition phase by Capability Development Group (CDG)⁶⁰, and form part of the supporting documentation for the second-pass capability proposal to Ministers. The documents need to accurately reflect the user's expectations of the system. Requests for Tenders containing deficient Capability Definition Documents will most likely result in tender evaluation teams evaluating tenders against incomplete specifications, which heightens the risk that the major system

58 Function and Performance Specifications are the basis for the contractor derived detailed design specifications, which take the form of System and sub-system Specifications and Support System Specifications.

59 Department of Defence, Defence Instructions (General) OPS 45-2, *Capability Acceptance into Operational Service*, February 2008, pp. 2 and 14.

60 The *Defence Procurement Review 2003* (the Kinnaird Review) concluded that Defence needed to further reform its acquisition management, and become more business-like and outputs-focused. Key reforms adopted by the Australian Government in response to the review included the strengthening of the capability and assessment process prior to projects being handed to DMO, through the formation of the Capability Development Group within Defence Headquarters. See ANAO Audit Report No.6 2013–14, *Capability Development Reform*, for further discussion of the Kinnaird reforms.

The Defence First Principles Review was released on 1 April 2015, and the Government accepted the Review's recommendation to transfer CDG's core responsibilities to a new Capability Acquisition and Sustainment Group. See <http://www.defence.gov.au/Publications/Reviews/FirstPrinciples/>.

being acquired and its associated support system will not meet ADF requirements. The Capability Definition Documents are also the key documents used to measure the effectiveness of the capability at the test and evaluation stage of a procurement.

2.10 Typically, the successful contractor will develop System Specifications that describe how their particular system design will implement the functional requirements in the Function and Performance Specifications.^{61,62} These System Specifications are then reviewed and signed-off by Defence, and become part of the contract.⁶³

Development of Capability Definition Documents

2.11 Defence began development of the Capability Definition Documents for the medium and heavy vehicle and trailer fleet acquisition as early as 2001. However, development of the Operational Concept Document stopped in 2005, following its release as part of the 2005 Request for Tender (RFT) process. It was not updated for the initial government second-pass approval in 2007, and despite plans to update it in 2008, it was still not updated by the time of the revised second-pass approval process in 2013.⁶⁴ Instead, the Operational Concept Document from 2005 was inserted into the contracts with the successful vehicle and trailer tenderers in 2013, for reference only, despite containing operational needs that had not been updated since 2005.

2.12 In May 2015 RMMV-A informed the ANAO that:

The lack of an endorsed up-to-date [operational concepts] means that civilian or military staff, without recent operational experience, are unable or unwilling to make informed trade-off decisions during the design process where there is conflict between one or more requirements of specifications causing one requirement to take priority over others. Furthermore, it allows Military User representatives to [indicate] a particular requirement as being out-of-date on the basis of recent operational experience. This led to unnecessary time and cost and

61 A Traceability Matrix is produced to show how the System Specifications implement each of the functional requirements so that, ideally, nothing is overlooked.

62 Haulmark Trailers informed the ANAO in May 2015, that the Requirements in the Missions System Specifications for the trailers were predominately derived from the Key Requirements Matrix, and not the Function and Performance Specification (Support) which was issued in August 2008.

63 Defence informed the ANAO in April 2015 that:

It is acknowledged that through the process of a tender response, source evaluation and contract negotiation, it is unlikely that there will be a perfect alignment between the Contract Specification and the initial Functional and Performance Specification.

64 See the Land 121 Phase 3B timeline in Table 1.2.

a failure to optimise Mission System performance in support of the underlying Doctrinal requirement. ...

The lack of [operational concepts] means that it is not clear how the vehicle/module, known as the mission systems, will actually be used ... The technical risks of integrating such systems has therefore increased.

2.13 The Function and Performance Specifications for the new medium and heavy vehicle fleet were completed in December 2003, and the Function and Performance Specifications for the vehicle and trailer support contracts were completed in October 2005. The Test Concept Document for the medium and heavy vehicle fleet was completed in February 2007. However, the Function and Performance Specifications and the Test Concept Document have not been updated since they were completed, contrary to the mandatory requirements of Defence's capability development framework. Further, there have been significant changes in Defence's capability requirements since the Capability Definition Documents were last updated. For example, Defence now requires many additional protected vehicles.

2.14 Defence also developed System Specifications for each vehicle and module, and released these as part of the December 2005 RFT. However, the development of System Specifications is normally undertaken by the successful tenderer once a contract has been signed, based on the Capability Definition Documents completed by Defence. Defence subsequently updated the System Specifications in 2013, and used them—in place of the out-of-date Operational Concept Document and Function and Performance Specifications—in the contracts with the vehicle and trailer suppliers.

2.15 In the absence of updated Capability Definition Documents, Army developed a two-page vehicle key requirements matrix, which provided a high-level overview of the complex System Specifications. The key requirements matrix was referenced in the 2013 contract with RMMV-A. While the matrix was a useful overview document, it was an inadequate substitute for complete and up-to-date Capability Definition Documents.⁶⁵ In May 2014, a

65 The test and evaluation processes for accepting a capability rely on the Capability Definition Documents. The *Defence Capability Development Handbook 2012* states that:

... acceptance into Operational Service is the process, documented in the Capability Realisation Plan, by which the [Fundamental Inputs to Capability] elements comprising a capability system are proven to meet endorsed capability requirements (usually specified in the Operational Concept Document) and assembled so that the capability is suitable for use as described in the Operational Concept Document.

DMO Gate Review Board⁶⁶ observed that Defence's approach to developing Capability Development Documents for Land 121 Phase 3B could lead to risks down the track, particularly as staff rotate through the areas of Defence responsible for the acquisition.

The required capability




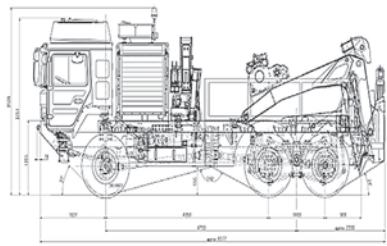

2.16 The Capability Definition Documents prepared between 2003 and 2007, though significantly out-of-date and not actually in use by Defence, provide the only formal guidance on the capability required across the medium and heavy vehicle fleet, including associated trailers for each type of vehicle variant

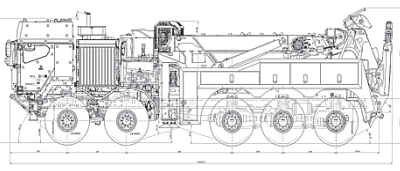
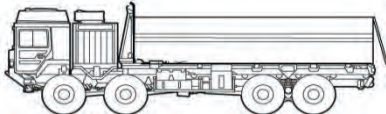


2.17 The Function and Performance Specifications established the formal requirement for eight vehicle variants. Table 2.2 illustrates the vehicle variants, and the current required numbers as specified in the latest Basis of Provisioning.⁶⁷

66 Gate Reviews are an internal DMO assurance process for major capital acquisition projects. Gate Reviews involve a periodic assessment of a project at key milestones during a project's lifecycle by a DMO-appointed Gate Review Assurance Board. These periodic reviews provide an opportunity for senior DMO management to seek insight into a project's progress and for project staff to discuss difficult issues with senior management and seek their guidance. The Gate Review Board makes a recommendation regarding the progress of the project and develops a list of action items to address identified issues. DMO held its first two Gate Reviews in 2008 and they are now considered DMO's most prominent project assurance activity. See ANAO Audit Report 52 2011–12, *Gate Reviews for Defence Capital Acquisition Projects*.

67 The Basis of Provisioning is a process for determining and recording the quantity of an asset that the Army is required to hold in order to support preparedness and mobilisation objectives. A Basis of Provisioning takes into consideration unit entitlements, operating stocks required to support the in-service fleet, reserve stocks and attrition stocks. Defence, *Defence Instruction (Army) 64-1 Basis of Provisioning*, December 1999, p. AL1.

Table 2.2: Required variants and quantities—medium and heavy vehicle capability

Vehicle ^A	Description
	Truck, medium weight tray Protected: 616 Unprotected: 766 Payload: 5–6 tonne
	Truck, medium weight tray with crane Protected: 141 Unprotected: 96 Payload: 4.3–5.5 tonne
	Truck, medium weight tipper Protected: 24 Unprotected: 15 Payload: 4.5–6 tonne
	Truck, medium recovery (conceptual) Protected: 15 Unprotected: 14 Lift tow: 6 tonne
	Truck, heavy, Integrated Load Handling System (ILHS) Protected: 236 Unprotected: 323 Payload: 15 tonne (including flatrack mass)

Vehicle ^A	Description
	Truck, heavy recovery Protected: 37 Unprotected: 22 Lift tow: 16.5 tonne
	Truck, heavy tipper Protected: 33 Unprotected: 66 Payload: 15 tonne
	Truck, heavy fuel Protected: 0 Unprotected: 22 Payload: Not less than 12 000L
	Truck, heavy tractor Protected: 21 Unprotected: 89 Vehicle/Trailer Gross Combination Mass: 130 tonne

Source: Department of Defence.

Note A: The vehicles pictured in the table are the Rheinmetall MAN variants proposed as part of the successful 2010 tender bid.

2.18 Significant capabilities to be incorporated into the new fleet of medium and heavy vehicles include the use of modules, Integrated Load Handling Systems (ILHS) and standardised load packaging.

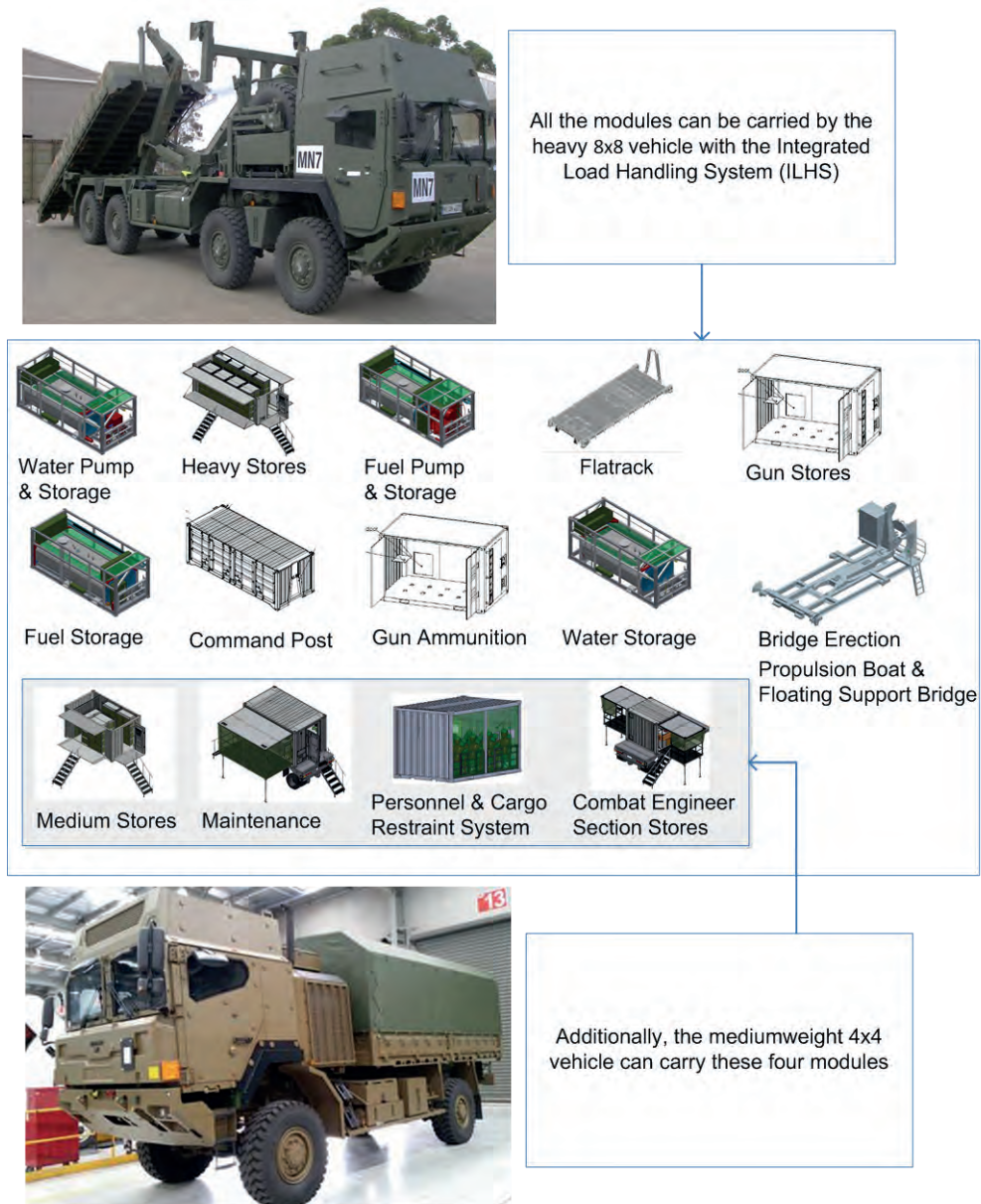
Modular material handling

2.19 Defence's in-service medium and heavy vehicle fleet comprises dedicated variants with the functional element, such as a stores or maintenance structure, permanently fixed to the basic vehicle. This limits the potential to fully utilise the vehicle and the availability of the supported function, and requires holding additional dedicated variants in repair and replacement pools.

2.20 The new capability will introduce modularisation into the medium and heavy vehicle fleet. Modularisation allows the interchange of modules, containers and flat racks with different functions onto the same basic vehicle chassis. Figure 2.2 shows how a basic vehicle can be used for different purposes

by installing different modules or containers on the back. This approach increases the operational flexibility provided to a commander—for example, if a vehicle becomes inoperable, the module or container can be transferred to a serviceable vehicle.

Figure 2.2: Use of modules on medium and heavy base vehicles



Source: Department of Defence.

Integrated Load Handling System

2.21 The current fleet requires load handling equipment and operators to be present at all points of the distribution chain to load and unload the trucks. The new capability will include vehicles with an ILHS incorporated onto the chassis of the vehicle. This increases the operational flexibility of the distribution network, as the vehicles can deliver supplies without additional load handling equipment and operators. Figure 2.3 shows a vehicle fitted with an ILHS self-loading a container.

Figure 2.3: Integrated Load Handling System



Source: Department of Defence.

Standardised load packaging

2.22 The Defence supply chain makes use of vehicles, aircraft and ships to transport supplies. If each transporting element uses a different-sized pallet or container, time is wasted in repackaging supplies when they are moved from one type of transport to another. The supply chain is streamlined by using a uniform packaging standard. The medium and heavy vehicle fleet will use modular load packaging, consistent with the rest of the Defence supply chain, including:

- small load units: this is a box pallet that will fit within larger containers;

- twenty-foot equivalent units: these are International Standards Organization (ISO) containers and platforms that can be divided into three groups:
 - ISO containers;
 - equivalent units; and
 - Bulk Liquid Modules;
- flat racks: these can carry an ISO container, packaged items or oversized items. A narrower, shorter flat rack can fit inside an ISO container.

Basis of Provisioning

2.23 Establishing a Defence capability requires clear engineering requirements, as discussed, and defining the numbers of assets required to meet objectives. This is achieved through the Basis of Provisioning process. The Army defines the Basis of Provisioning as:

... a determination of the quantity of an asset that the Army is required to hold in order to support preparedness and mobilisation objectives. A [Basis of Provisioning] takes into consideration unit entitlements, operating stocks required to support the [in-service] fleet, reserve stocks and attrition stocks.⁶⁸

2.24 The current medium and heavy vehicle and trailer fleet was delivered to the ADF between 1967 and 2003, following many separate procurement processes. Land 121 Phase 3B is replacing all of the in-service vehicles through a single procurement, and calculating the Basis of Provisioning has been a much more involved process for Phase 3B than for the previous acquisitions.

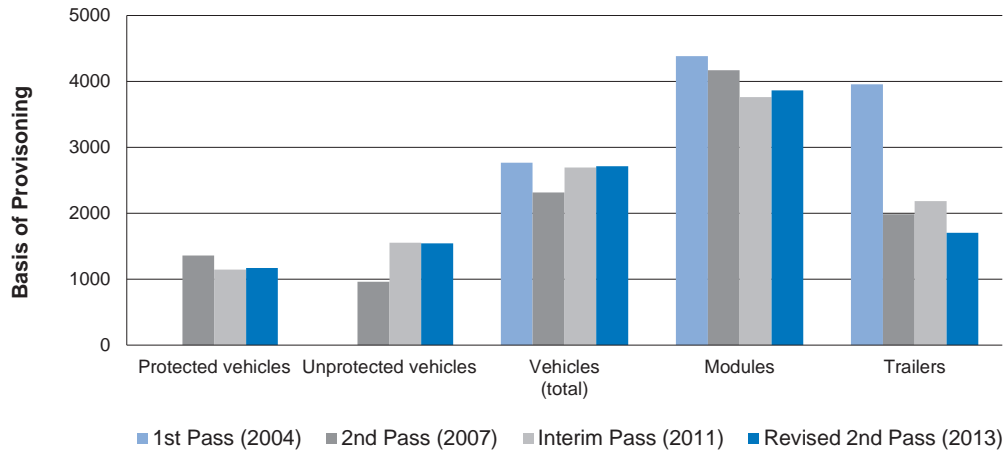
2.25 An initial Basis of Provisioning for Land 121 was developed in 2004. Army units were asked to: identify medium and heavy vehicle task requirements; review medium and heavy vehicle role summaries, capacity and capability; review a draft Basis of Provisioning by comparing current medium and heavy vehicle tasks with future operations; and identify shortfalls in the draft Basis of Provisioning.

2.26 Since its initial development in 2004, the Basis of Provisioning has undergone numerous changes in terms of the number and type of vehicles

68 Defence, *Defence Instruction (Army) 64-1 Basis of Provisioning*, December 1999, p. AL1.

required; vehicle characteristics such as blast and ballistic protection; and module and trailer requirements. Defence also applied different methodologies over time to develop the Basis of Provisioning. Figure 2.4 illustrates overall changes in the Basis of Provisioning for the medium and heavy vehicles, at key decision points since 2004. Numerous changes were also made in respect to the number of vehicles within each class.

Figure 2.4: Changes to the Basis of Provisioning



Source: ANAO analysis of data provided by the Department of Defence.

2.27 In 2007, just prior to initial second-pass approval, the Defence Science and Technology Organisation published the results of its analysis of the Basis of Provisioning for Land 121, which indicated that:

... given the lack of important input data, such as quantifiable government guidance on the size of vehicle fleets for strategic response options, the process of estimating [the field vehicle and trailer] Basis of Provisioning is inherently inaccurate. This study indicates that even the best analysis is only likely to provide Basis of Provisioning estimates of around ten per cent accuracy.

2.28 While some level of inaccuracy in the Basis of Provisioning can be expected, as can some degree of adjustment over time, Defence also made significant adjustments to required vehicle numbers and types based on the availability of project funding. While this was a pragmatic approach, it did not align with the key purpose of the Basis of Provisioning process, which is expected to be an 'objective' measure of capability requirements, rather than a statement of the assets which can be acquired within an available budget.

2.29 ANAO Audit Report No.41 1998–99, *General Service Vehicle Fleet*, also found that Defence’s medium and heavy recovery vehicle procurement Basis of Provisioning had been influenced by the availability of funds:

... the ANAO examined the calculation of Basis of Provisioning for a current acquisition project (medium recovery vehicles) and found that the Basis of Provisioning had been adjusted having regard to the availability of funds. In the longer term this will result in an understatement of the requirement to support the Army in the event of a military contingency. The ANAO considers the Basis of Provisioning calculation should reflect an accurate assessment of the level of stocks required by Army to fulfil its preparedness objectives, even if insufficient funds are available to procure the full requirement.

2.30 Defence informed the ANAO in April 2015 that:

[Basis of Provisioning] was not based on affordability. However, the supplied fleet following consideration was based on affordability. The [Basis of Provisioning] was then adjusted.

2.31 Defence needs to maintain a clear view of any gap between the capability it requires to support preparedness and mobilisation objectives, and the affordable capability. This enables Defence to advise government about any potential gap between the required and affordable capability. However, the current *Defence Instruction (Army)* on the Basis of Provisioning for Army capabilities was issued in 1999 and has not been updated. To provide greater certainty in the development of relevant Defence assessments and advice, Defence should develop contemporary guidance on how to calculate and maintain the Basis of Provisioning for specialist military equipment.

Recommendation No.1

2.32 To provide greater certainty in the development of relevant assessments and advice, the ANAO recommends that Defence develop contemporary guidance on the Basis of Provisioning for the acquisition of specialist military equipment for the Australian Defence Force.

Defence’s response:

2.33 *Agreed. Whilst Defence agrees with the intent of the one recommendation, we reinforce that value for money is a key consideration during every tender process. Defence will review its policy on Basis of Provisioning to ensure it is current and applicable in the acquisition of specialist military equipment.*

Conclusion

2.34 Defence developed Capability Definition Documents during the initial stages of the medium and heavy vehicle fleet acquisition process between 2004 and 2007, but did not complete or update them for the purpose of supporting government second-pass approval processes in 2007 and 2013, or when negotiating and entering into contracts in 2013. Defence instead developed a set of non-standard documents to inform contracts, design review processes and test and evaluation, contrary to Defence policy.⁶⁹ In May 2014, a DMO Gate Review Board observed that Defence's approach to developing Capability Development Documents for Land 121 Phase 3B could lead to risks down the track, particularly as staff rotate through the areas of Defence responsible for the acquisition. Defence's approach in this instance has also contributed to uncertainty for industry contractors in developing solutions, particularly for elements of the design that remain subject to change, and in relation to systems integration.

2.35 The Basis of Provisioning is a process for determining and recording the quantity of an asset that Army is required to hold in order to support preparedness and mobilisation objectives. Adjustments to the Basis of Provisioning would normally be made to reflect a change in the capability requirements of Army, or a change in the capability characteristics of an asset. The difference between the number of assets listed in the Basis of Provisioning required to meet Army's capability requirements, and Army's actual number of assets, is the capability gap. In this respect, the Basis of Provisioning is expected to be an 'objective' measure of capability requirements, rather than a statement of the assets which can be acquired within an available budget.

2.36 While some adjustment can be expected over time, the Basis of Provisioning for Land 121 Phase 3B has undergone numerous changes since 2004: in terms of the number and type of vehicles required; vehicle characteristics such as blast and ballistic protection; and module and trailer requirements. Defence applied different methodologies over time to develop the Basis of Provisioning, and more fundamentally, made significant adjustments to required vehicle numbers and types based on the availability of project funding—a pragmatic approach which did not align with the key purpose of the

69 These non-standard documents included a two page vehicle key requirements matrix; and System Specifications, which are normally developed by the successful contractor based on Defence's Function and Performance Specification.

Basis of Provisioning process. Defence needs to maintain a clear view of any gap between the capability it requires to support preparedness and mobilisation objectives, and the affordable capability. However, the current *Defence Instruction (Army)* on the Basis of Provisioning for Army capabilities was issued in 1999 and has not been updated. To provide greater certainty in the development of relevant Defence assessments and advice, Defence should develop contemporary guidance on how to calculate and maintain the Basis of Provisioning for specialist military equipment.

3. Initial Medium and Heavy Vehicle Fleet Tender Process

This chapter examines the initial medium and heavy vehicle fleet tender process conducted between 2005 and 2007, including industry solicitation, the tender evaluation and advice to government.

Introduction

3.1 Defence issued an Invitation to Register Interest (ITRI) for the supply of a replacement medium and heavy vehicle and trailer fleet in August 2003.⁷⁰ The ITRI noted that the funding provision for the fleet in the Defence Capability Plan⁷¹ was sufficient to replace the in-service fleet, provided that a mix of military off-the-shelf (MOTS) and commercial off-the-shelf (COTS) vehicles was procured. In November 2003, Defence shortlisted nine respondents to the ITRI as possible suppliers of the medium and heavy vehicles.

3.2 The Defence Capability Committee met in December 2003 to consider the way ahead for the medium and heavy vehicle fleet acquisition, and decided that the cost information obtained through the ITRI was not of sufficient quality to proceed to the first and second-pass approval stages. The Committee instead agreed to seek first-pass approval from Ministers to release a Request for Tender (RFT), limited to the nine shortlisted suppliers, prior to seeking second-pass approval.⁷²

3.3 On 16 June 2004, the then Government granted first-pass approval for Land 121 Phase 3, including the acquisition of the new medium and heavy vehicle and trailer fleet. Defence was directed to develop, release and evaluate an RFT for the fleet and examine the appropriate combination of MOTS and COTS vehicles. At this time, Defence anticipated that MOTS vehicles would be more rugged, durable and a better capability fit, and COTS vehicles would be adequate in some circumstances and cheaper to acquire.

70 The ITRI was for Land 121 Phase 3, including both the light/lightweight and medium and heavy vehicle segments.

71 The Defence Capability Plan lists Defence major projects that Defence plans to present to government for approval.

72 Figure 2.1 on page 41 illustrates the two-pass approval process.

3.4 At first-pass, the Government decided that Land 121 Phase 3 would be a cost-capped project. Ministers approved up to \$3.4 billion for acquisition of both the light/lightweight and medium and heavy vehicle segments, with trade-offs to be made between individual vehicle features and vehicle numbers to stay within budget. The Government also noted its expectation that trucks would be sourced from overseas suppliers, and modules and trailers would be sourced from Australian companies.

3.5 In this chapter, the ANAO examines:

- Defence's Land 121 Phase 3 Acquisition Strategy, developed after release of the RFT;
- tender responses and Defence's tender evaluation;
- second-pass approval of Land 121 Phase 3 in 2007; and
- Defence's Offer Definition and Refinement Process (ODRP) for the medium and heavy vehicle segment.

Acquisition strategy

3.6 Defence released RFTs for Land 121 Phase 3 in December 2005⁷³, with responses required by 21 June 2006. Defence also finalised its Land 121 Phase 3 Acquisition Strategy in June 2006. The Strategy recommended a single prime contractor for the supply of the medium and heavy trucks to realise savings in acquisition and sustainment, through reduced project office costs, reduced contract management overheads and simplified logistics support to operations.⁷⁴ The Acquisition Strategy noted that a complete MOTS fleet would not be affordable.

3.7 The Acquisition Strategy outlined Defence's plan for second-pass approval. Under the plan, Defence was to provide the Government with a shortlist of two suppliers for each vehicle segment, as well as the Phase 3 trailers. Following government approval, the selected tenderers would then take part in an ODRP, involving a comparison of the two top-rated tenderers to establish the most suitable capability solution. The Acquisition Strategy differed from standard practice in that second-pass approval normally

73 Three RFTs were issued: one for the light/lightweight vehicle segment, a second for the medium and heavy vehicle segment, and a third for associated trailers.

74 Defence anticipated that further savings could be made if common parts and assemblies were used on the different trucks so that economies of scale could be realised.

involves government selecting a preferred capability solution following an ODRP.

3.8 Under the Acquisition Strategy, preliminary testing and evaluation of vehicles would only occur during the ODRP, after two options were selected by the Government at second-pass. This approach introduced risk, in that Defence’s recommendation on the two preferred options would not be informed by any preliminary vehicle testing.⁷⁵ Defence relied instead on the integrity of the data provided by the vehicle suppliers in response to the RFT. The risks inherent in this approach would materialise during the ODRP.⁷⁶

Evaluation of tender responses

3.9 As indicated, responses to the medium and heavy vehicle segment RFT were required by 21 June 2006. Of the nine vehicle suppliers invited to tender, five provided responses. Table 3.1 lists the suppliers.

Table 3.1: Responses to the initial medium and heavy vehicle tender

Tenderer	Proposed primary module provider
Mercedes-Benz Australia/Pacific (formerly DaimlerChrysler Australia/Pacific) which offered its S2000 and Actros family of vehicles	Royal Wolf
MAN Nutzfahrzeuge of Germany, which offered its own vehicles	Royal Wolf
Stewart and Stevenson ^A which offered its family of medium tactical vehicles	Royal Wolf
Mack Trucks, which offered its Renault family of vehicles	G.H. Varley
Thales (formerly ADI) which offered vehicles from Oshkosh Trucks of Wisconsin USA	G.H. Varley

Source: Defence tender documentation.

Note A: Stewart and Stevenson was acquired by BAE Systems on 31 July 2007.

75 During the 2005–07 tender process, there were no mandated Defence policies to conduct testing and evaluation of capability solutions prior to second-pass. In contrast, the current version of the *Defence Capability Development Manual 2014* (Chapter 2, paragraph 2.1) mandates test and evaluation prior to second-pass approval:

... reviews of Defence projects that have failed or substantially not achieved their anticipated schedules, costs or capability requirements universally recommend earlier test and evaluation to determine the real risks as early as possible. Later Test and Evaluation (T&E) around materiel acceptance or acceptance into operational service, while important to mitigate and safely work around issues, fundamentally aims to confirm conformance to technical and operational requirements. Preview T&E is to be employed to identify risks early enough to find or develop more appropriate capabilities and systems, or at least allocate appropriate additional contingency funding or adjust projected schedules and will be an integral part of the pre-first and pre-second pass capability phases.

76 The ODRP for the initial tender is discussed in paragraphs 3.37–3.46.

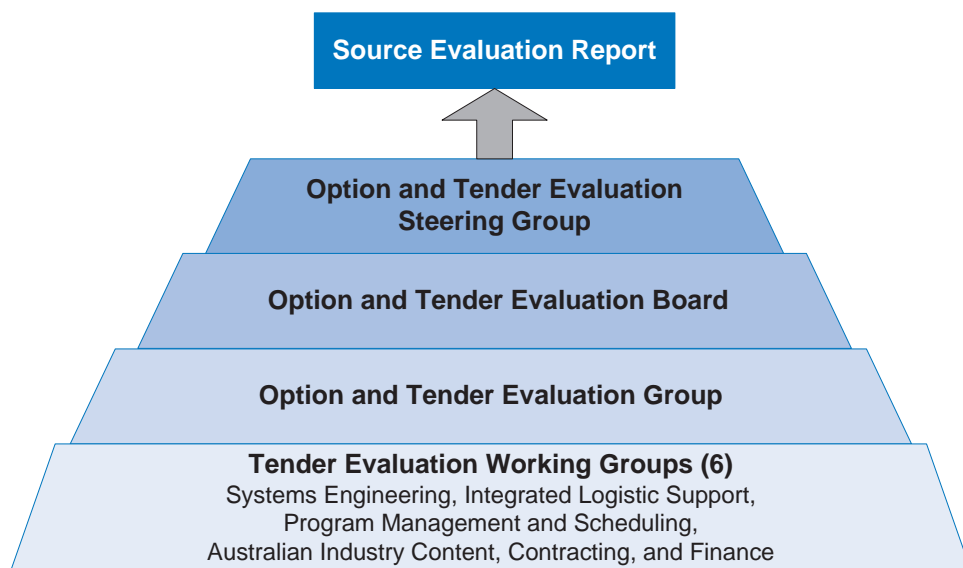
3.10 The tender responses indicated that the cost of MOTS vehicles and modules would be some 20 and 50 per cent higher, respectively, than anticipated in June 2004, when the Government provided first-pass approval. It became clear during the evaluation that balancing the capability requirements and cost restrictions would be a significant challenge for Defence.

3.11 Defence's Tender Evaluation Plan was endorsed by DMO's Head Capability Systems on the closing date for tender responses, 21 June 2006. The Tender Evaluation Plan included the following evaluation criteria:

- the tenderer's ability to meet the Commonwealth's capability and support requirements;
- the price, affordability and value-for-money of the tenderer's capability solution, and the proposed through-life support;
- the level of risk attached to the proposed capability solution and its ability to satisfy Australian Industry Capability Outcomes;
- the ability of the tenderer to commit to a long-term strategic relationship, and the availability of intellectual property to the Commonwealth; and
- the tenderer's compliance with the conditions of tender and the draft conditions of contract.

3.12 The tender evaluation was undertaken by six Tender Evaluation Working Groups (TEWGs), and subject to three levels of review (Figure 3.1). Each TEWG examined a specific aspect of the proposals—such as systems engineering or contracting—and prepared a report which was incorporated into the overarching Source Evaluation Report.

Figure 3.1: Tender evaluation management structure



Source: Defence, Source Evaluation Report for Land 121 Phase 3, August 2007.

3.13 The TEWGs' findings in relation to the successful 2007 tenderer, Stewart and Stevenson, are summarised in the following paragraphs.

Systems engineering

3.14 The overall assessment of the Systems Engineering TEWG of the Stewart and Stevenson proposal against Defence's requirements was 'marginal' with a risk level of 'high'. Based on Defence's vehicle requirements, the TEWG rated the Stewart and Stevenson vehicles, and the armoured protection offered for the vehicles, as 'Deficient—Critical'. While the TEWG noted several vehicle strengths, including load capacity, reliability, use of automatic transmissions and anti-lock braking systems, the proposed vehicles were also assessed as not meeting Defence requirements. For instance:

- the medium-weight vehicles, and medium and heavy recovery vehicles did not comply with Australian road regulations;
- the medium-weight vehicles did not have specified roll-over protection, and both the medium and heavy vehicles did not comply with the static rollover requirement;
- when fully laden, the medium vehicles were unable to tow a fully laden trailer;

- the recovery vehicles could not tow a significant proportion of the required loads, and the medium recovery vehicle had deficiencies in its recovery apparatus; and
- the prime movers were COTS, and lacked specific military features, including adequate armoured protection.

3.15 Further, the Source Evaluation Report noted that:

Although the [Stewart and Stevenson] trucks are based on [in-service] vehicles, most will be significantly modified or used outside their proven capabilities—many payloads claimed in the offer are significantly higher than those of the [in-service] variants—creating schedule and capability risks.

3.16 The Systems Engineering TEWG was not able to assess the module capability proposed by Stewart and Stevenson, as the modules were conceptual at the time of tender—that is, they did not yet exist. The Stewart and Stevenson proposal was ranked fourth out of five by the Systems Engineering TEWG.

Other TEWG assessments

3.17 Five other TEWGs evaluated aspects of the proposals. The TEWGs identified a number of further issues and risks relating to the Stewart and Stevenson proposal. Table 3.2 summarises the findings of the TEWGs on the proposal's ability to meet Defence's specific requirements, and the proposal's ranking against the other four proposals.

Table 3.2: Ranking of Stewart and Stevenson proposal

Subject matter	Ranking	Issues identified
Integrated logistics support	3rd	The overall assessment was 'strong' with a risk level of 'extreme'. The main strength was Stewart and Stevenson's background in Defence procurement. However, Stewart and Stevenson also had limited capacity to provide through-life support services in Australia, and would need to engage subcontractors.
Program management and scheduling	3rd	The overall assessment was 'fair' with a risk level of 'extreme'. The key strengths of the Stewart and Stevenson proposal were its well-structured schedule, and its experience in providing capability solutions and contract support. However, significant risks were identified in relation to the proposal's optimistic timeframes, and the compression of critical activities increased schedule risk.

Subject matter	Ranking	Issues identified
Australian industry content	5th	The overall assessment was 'fair' with a risk level of 'high'. There were no strengths identified for the Stewart and Stevenson proposal. The issues identified included a lack of detail on Australian industry involvement and the role of foreign suppliers. The TEWG also noted that the local workforce may lack the necessary skills to implement the contract.
Contracting	5th	The overall assessment was 'unsatisfactory' with a risk level of 'high'. The TEWG noted in relation to the Stewart and Stevenson proposal: ... a great many significant deficiencies, and it is not possible to create a representative listing of the key concerns within this [Source Evaluation Report] ... Stewart and Stevenson's tender exposes the Commonwealth to very high risk, including schedule risk, cost risk, quality and performance risk ... The key issue to be resolved internally is the acceptability of taking [Stewart and Stevenson] to ODRP, given that there is a high probability that the Commonwealth will not be able to deal commercially with [Stewart and Stevenson].
Finance	1st	The overall assessment was 'strong' with a risk level of 'medium'. Stewart and Stevenson provided the cheapest proposed capability solution. The main issue identified in the response was a lack of detail regarding training costs.

Source: Defence, Source Evaluation Report for Land 121 Phase 3, August 2007.

3.18 In summary, the TEWGs ranked the Stewart and Stevenson proposal: fifth on two criteria; fourth on one criterion; third on two criteria; and first on one criterion.

Establishing value-for-money

3.19 The second step in the tender evaluation process was to determine the best overall value for money option. The proposals were allocated a score out of ten for each of the six TEWG subject matter areas (including costs), to determine a total score. The proposal from Stewart and Stevenson was initially ranked last on the basis of overall value for money.

3.20 The final step in the evaluation process was an assessment of affordability, which resulted in the elevation of the Stewart and Stevenson proposal to the position of preferred tenderer. However, this process did not include an analysis of trade-offs between capability and cost, and was based solely on the price of the Stewart and Stevenson offer. The Source Evaluation Report concluded that:

... [the Stewart and Stevenson proposal] was technically inferior but was clearly the most affordable of all bids. Consequently, it was generally considered that [the Stewart and Stevenson proposal], due to its affordability, should be elevated to position of first ranked tenderer and would form part of the ODRP shortlist ...

... the overall effect of the cost cap on the project was that in value-for-money terms, affordability became the prime determinant i.e.: its weighting had to be greater than that of the weighting assigned to technical merit.

3.21 At the time Defence undertook the value for money analysis, the guiding principles for determining value for money in procurement were set out in paragraphs 4.1 and 4.4 of both the 2005 and 2008 *Commonwealth Procurement Guidelines*. The Guidelines advised that:

Value for money is the core principle underpinning Australian Government procurement. In a procurement process this principle requires a comparative analysis of *all* relevant costs and benefits of each proposal throughout the whole procurement cycle (whole-of-life costing) ...

Cost is not the only determining factor in assessing value for money. Rather, when assessing alternative procurement processes or solutions, a whole-of-life assessment would include consideration of factors such as:

- the maturity of the market for the property or service sought;
- the performance history of each prospective supplier;
- the relative risk of each proposal;
- the flexibility to adapt to possible change over the lifecycle of the property or service;
- financial considerations including all relevant direct and indirect benefits and costs over the whole procurement cycle;
- the anticipated price that could be obtained, or cost that may be incurred, at the point of disposal; and
- the evaluation of contract options (for example, contract extension options.⁷⁷

3.22 In selecting a preferred supplier for the medium and heavy vehicle acquisition, Defence did not have sufficient regard to the *Commonwealth*

⁷⁷ Department of Finance and Administration, *Commonwealth Procurement Guidelines—January 2005*, p. 10.

Procurement Guidelines, which established value-for-money as the core principle underpinning Australian Government procurement, and made clear that this principle required an analysis of all relevant costs and benefits of each proposal, in addition to financial cost. In particular, Defence's decision to elevate the lowest-ranked proposal to preferred status potentially exposed the Commonwealth to a variety of significant risks as assessed by the TEWGs—relating to key technical, capability and contracting requirements.

3.23 The Source Evaluation Report was provided to the Chief of Capability Development Group, the CEO DMO and Chief of Army for consideration. The Report was finalised in August 2007, and recommended Stewart and Stevenson as the sole supplier of the medium and heavy vehicle fleet.

Trailer segment

3.24 At the time of the Land 121 Phase 3 RFT processes, it was Australian Government policy that the production of trailers would form the main Australian industry component of the project. As a consequence, only Australian based manufacturers were permitted to submit proposals to supply trailers. Only one supplier responded to the trailer RFT—Haulmark Trailers, an Australian manufacturer of trailers based in Brisbane.

3.25 Haulmark Trailers was already a supplier of trailers to Defence, and Defence's tender evaluation concluded that Haulmark Trailers would be able to meet systems engineering and integrated logistics requirements. However, Defence was concerned about Haulmark Trailers' ability to provide a long term capability solution, and that the company's tender response omitted important information required by Defence. Defence officials visited Haulmark Trailers' factory in early 2007 to work through the issues with the tender response. At the completion of the Source Evaluation Report in August 2007, Defence and Haulmark Trailers were still working through those issues, and it was envisaged that they would be settled after Ministers provided second-pass approval.

Second-pass approval 2007

3.26 Defence's August 2007 second-pass submission for LAND 121 Phase 3 addressed both the light/lightweight, and medium and heavy vehicle segments. However, Defence provided limited advice on the required capabilities and the capability offered by the proposed options. Defence's advice to Ministers on the preferred medium and heavy vehicle proposal was limited to the armour protection of the Stewart and Stevenson vehicles. Further, Defence did not

advise Ministers of the significant capability and technical risks it had identified, before recommending a single supplier.

3.27 When it gave first-pass approval in 2004, the then Government had directed that Defence examine the appropriate combination of MOTS/COTS vehicles. The Defence Science and Technology Organisation (DSTO) subsequently examined the potential for the use of COTS vehicles in July 2007, the month before the second-pass submission was considered by Ministers, and found:

COTS vehicles have lower capability than MOTS vehicles and there is no evidence that introducing COTS vehicles will result in Through-Life-Support cost savings ... thus the introduction of COTS vehicles into service is a doubtful concept.

3.28 Notwithstanding the DSTO's findings, Defence's second-pass submission did not mention the risk that the acquisition of COTS vehicles may not produce the savings envisaged.⁷⁸

3.29 At first-pass in June 2004, the then Government had also requested that Defence provide Ministers with a shortlist of best value-for-money proposals at second-pass, based on an order-of-merit list established through the evaluation of tender responses. This approach was incorporated in Defence's June 2006 Acquisition Strategy.⁷⁹ However, Defence's second-pass submission did not contain a shortlist of best value-for-money proposals. The submission mentioned only one supplier, Stewart and Stevenson, for the medium and heavy vehicles. Defence's second-pass submission also provided limited detail on the trailers, other than identifying Haulmark Trailers as the proposed tenderer, and that its selection contributed to Australian industry involvement in the project.

3.30 Defence's Land 121 Phase 3 submission to Ministers included three options, in terms of vehicle numbers, and the mix of MOTS and COTS vehicles (Table 3.3). Defence's preferred \$6.6 billion option was for a complete MOTS fleet (Option One). The then Minister for Defence proposed that Ministers approve Option Two, which involved the acquisition of a mixed MOTS/COTS medium and heavy vehicle and trailer fleet at a cost of \$5.3 billion. Option Three involved the acquisition of a smaller number of vehicles, and a higher proportion of COTS vehicles, at a cost of \$3.5 billion.

⁷⁸ The Stewart and Stevenson RFT proposal included COTS prime mover vehicles.

⁷⁹ See paragraph 3.7.

Table 3.3: Options provided to government at second-pass in 2007

Discriminators	Option One ^A	Option Two	Option Three
Description	Desirable	Cost/capability balance	Cost capped
Indicative numbers	7150 MOTS 66 per cent protected	4900 MOTS 2200 COTS 40 per cent protected	2600 MOTS 2600 COTS 35 per cent protected
Protected vehicles requirement	Medium scale joint task force suitable for combat operations.	Force scales at the lower end of the spectrum. To provide a reduced capacity for operating alone in more demanding circumstances.	To undertake a range of operations in which combat is less likely. For a very limited capacity to undertake combat operations without exposing ADF members to unacceptable risk.
Total vehicles requirement	Support ADF training and national tasks.	Support ADF training and national tasks.	Support a reduced level of training.
Costs (\$ billion)	6.6	5.3	3.5
Net Personnel and Operating Costs ^B (\$ million)	210	140	1

Source: Department of Defence.

Note A: The options provided to Ministers for second-pass approval addressed all of Land 121 Phase 3, including the light, lightweight, medium and heavy vehicle and trailer fleets.

Note B: Net Personnel and Operating Costs comprise the estimated cost of operating a new or upgraded ADF capability over its lifetime minus the estimated cost of continuing to operate the capability it replaces over that period.

3.31 As part of its 14 August 2007 second-pass approval, the then Government approved Option Two in part. While the total funding requested under Option Two was \$5.3 billion, the Government split the acquisition into two phases. Land 121 Phase 3 was given an approved budget of \$3.5 billion. The Government deferred second-pass approval of the remaining \$1.8 billion by creating a new project phase—Land 121 Phase 5—to purchase additional MOTS and new COTS vehicles at a later date. Specifically, for Land 121 Phase 3, the Government approved the acquisition of:

- 2315 medium and heavy vehicles and their associated modules, trailers and protection kits (Table 3.4);
- 1099 light/lightweight vehicles from Mercedes-Benz (Daimler Chrysler); and

- 256 Infantry Mobility Vehicles (Bushmasters) from Thales.⁸⁰

Table 3.4: Land 121 Phase 3—approved medium and heavy vehicle numbers

Vehicles	Numbers
MOTS Protected	1357
MOTS Unprotected	958
Total	2315

Source: Department of Defence, Land Systems Division.

3.32 The acquisition of 256 Infantry Mobility Vehicles (Bushmasters) was a significant part of the then Government’s second-pass decision. However, the Bushmaster capability is not part of the Land 121 field-vehicle capability. The Bushmaster capability is instead covered by a separate Defence acquisition program—Land 116 Bushmaster Infantry Mobility Vehicles.

3.33 A business case for the Bushmasters did not appear in Defence’s second-pass submission for the field vehicle acquisition. Further, Defence could not provide the ANAO with documentation explaining the inclusion of the Bushmasters as part of its Land 121 Basis of Provisioning at the time of second-pass approval in August 2007.

3.34 The acquisition of the Bushmasters as part of LAND 121 Phase 3 cost \$382.6 million. As a consequence, the available funding for the light/lightweight and medium and heavy vehicles was reduced by this amount. The decision to cost-cap LAND 121 had already created significant challenges in acquiring the required capability, and the decision to use project funding to acquire Bushmasters placed further cost pressure on the project.

Development of a new Basis of Provisioning following second-pass approval

3.35 In the lead-up to second-pass approval, Defence’s Capability Development Group (CDG) had only developed a Basis of Provisioning for Defence’s preferred Option One. Following second-pass approval, CDG noted that:

... Defence had no detailed plan how the lesser number of vehicles [under Option Two] may be accepted by Army and RAAF, nor an accurate balance of vehicle types within each vehicle class.

80 See paragraphs 3.32–3.34.

3.36 CDG completed a new Basis of Provisioning, based on affordability⁸¹, for Land 121 Phase 3 in November 2007, three months after second-pass approval.

Offer Definition and Refinement Process

3.37 Defence commenced the ODRP after receiving second-pass approval. As discussed, Defence's Acquisition Strategy envisaged that this process would involve a comparison of the two top-rated tenderers to establish the most suitable capability solution. However, Defence proposed only one vehicle supplier and one trailer manufacturer for second-pass approval. The ODRP process proceeded with the approved suppliers—Stewart and Stevenson, and Haulmark Trailers.

3.38 As the acquisition entered the ODRP phase, Defence identified two key issues which eventually led to: the cancellation of negotiations with Stewart and Stevenson; and a tender resubmission process for the medium and heavy vehicle fleet. The first issue related to whether Stewart and Stevenson would be able to satisfy government requirements for a mixed fleet of military-off-the-shelf (MOTS) and commercial-off-the-shelf (COTS) vehicles. Defence's revision of the Basis of Provisioning after second-pass (refer to paragraphs 3.35–3.36) meant that the information on the required number and type of vehicles, provided to suppliers when the tender was released in December 2005, was no longer current. Concerns subsequently emerged within Defence that Stewart and Stevenson may not be able to satisfy the new requirements of the Basis of Provisioning.

3.39 A second key issue related to deficiencies in the detailed vehicle specifications provided by Stewart and Stevenson in November 2007, as compared to data provided for the tender evaluation process.⁸²

3.40 In February 2008, DMO proceeded to demonstration and compliance testing of the Stewart and Stevenson vehicles. The testing was conducted under the supervision of DMO's Land Engineering Agency at the proving ground at Monegetta, Victoria, and was completed in May 2008. The testing was limited to the four Stewart and Stevenson vehicles available at the time:

- truck medium-weight (4x4);
- truck medium-weight (6x6);

81 See paragraphs 2.23–2.31.

82 Defence took advice from a probity adviser on both key issues.

- truck medium; and
- truck heavy.

3.41 The demonstration and compliance testing process identified significant deficiencies in the capability of the Stewart and Stevenson vehicles when assessed against Defence's requirements. Defence also identified significant inconsistencies between the test vehicle dimensions and specifications, and those documented in Stewart and Stevenson's tender proposal.⁸³ Table 3.5 summarises the issues identified by the Land Engineering Agency during the testing process.

Table 3.5: Demonstration and compliance testing issues

Category	Issue
Braking	The medium and heavy vehicles failed to comply with braking requirements.
Gradient	The medium vehicle's parking brakes did not hold on any gradient. The remaining vehicles' parking brakes failed to hold on 60 per cent gradients.
Obstacle performance	The medium and heavy vehicles were unable to negotiate the landing craft obstacle. The heavy vehicle failed the articulation obstacles due to its suspension components interfering with other components.
Survival Enhancement Kit fitment	The installation of the Survival Enhancement Kit took significantly longer than claimed in the RFT response.
Night Vision Goggle compatibility	Use of Night Vision Goggles was impeded due to excessive light in the vehicles' cabins.
Ride quality	Only one of the vehicles met ride quality requirements. The remainder of the vehicles were found to have significant failures. In one case the vehicle's driver exceeded the acceptable daily exposure to vibration within just 1.3 hours.
Human factors	The ergonomics and usability of the vehicles were rated as poor.
Fording	The claimed fording performance could not be achieved.
Axle loads	All axle loads contained in the RFT response were exceeded.
Turning circle	There were significant inconsistencies between the specifications claimed by Stewart and Stevenson in its RFT response, and those found during testing.

Source: Department of Defence, Land Engineering Agency, Demonstration and Compliance Testing Report, October 2008.

⁸³ BAE Systems (which acquired Stewart and Stevenson in July 2007) informed the ANAO in May 2015 that:

BAE Systems maintains that the vehicles delivered to Australia for demonstration and compliance testing met or exceeded the performance levels stated by Stewart and Stevenson in its proposal.

3.42 The engineering deficiencies of the Stewart and Stevenson vehicles also meant that the vehicle testing could not be conducted on public roads, which limited testing activities to the Land Engineering Agency's proving ground. The Land Engineering Agency concluded:

... all these non-compliances would need to be rectified to the satisfaction of the Commonwealth before these vehicles would be considered safe and fit for purpose.

The heavy vehicle causes particular concern. Discrepancies between claimed and measured values for axle loads and turning circle imply analysis errors or untracked changes in the engineering development of the prototype delivered. The interference of suspension components indicates technical immaturity and would require significant suspension design changes to rectify. This design presents high technical and schedule risk to the Commonwealth ...

The number of observations of non-compliance against requirements for which compliance was claimed, together with the technically immature state of the heavy vehicle, indicate technical risk in proceeding to contract with [Stewart and Stevenson].

3.43 The technical concerns raised by the Land Engineering Agency led Defence to consider testing and acquiring Stewart and Stevenson vehicles that were not proposed as part of the tender process, to satisfy the Basis of Provisioning. CDG briefed the CEO DMO on the vehicle issues on 8 May 2008 and the CEO DMO subsequently briefed the Parliamentary Secretary for Defence Procurement. In later advice to Ministers, Defence stated that it had underestimated the risks relating to the Stewart and Stevenson proposal:

... the seriousness of the eventual probity concerns [was] not apparent during the internal Defence committee process in the lead up to Second Pass of Phase 3. Prior to Government approval, the probity risks were underestimated by Defence.⁸⁴

3.44 On 26 May 2008, Defence's probity adviser identified four potential options to help Defence address the emerging issues with the Stewart and Stevenson vehicles, which included terminating the RFT process. On the same day, the CEO DMO wrote to Stewart and Stevenson advising that Defence was ceasing contract negotiations.⁸⁵

⁸⁴ Defence advice to Ministers, August 2008.

⁸⁵ Defence subsequently approached the market again to re-tender for the medium and heavy vehicles (see Chapter 4).

3.45 BAE Systems (which acquired Stewart and Stevenson in July 2007) informed the ANAO in May 2015, that:

Stewart and Stevenson offered essentially its [United States of America] military of-the-shelf Family of Medium Tactical Vehicles (FMTV) models, unmodified in order to keep costs low. The FMTV vehicles are well characterised, and whose performance has been well documented and well known by the [United States of America] Army in its acquisition of over 70 000 FTMV vehicles before and since Project Overlander.

The [2005 Request for Tender] included a bespoke vehicle specification written by DMO which incorporated extensive use of Australian standards. The RFT specification required COTS/MOTS vehicles previously developed to international standards to have their manufacturer's product specifications analysed for compliance to unique Australian standards.

3.46 In September 2008, Project Overlander LAND 121 Phase 3B was placed on the 'Projects of Concern' list,⁸⁶ where it remained until 13 December 2011.

Conclusion

3.47 Defence released a Request for Tender (RFT) for the medium and heavy vehicle segment of Land 121 Phase 3 in December 2005. Five vehicle suppliers responded to the RFT. However, Defence's Acquisition Strategy did not allow for any practical preliminary testing and evaluation of the vehicles proposed by the tenderers. Instead, Defence's assessment of the vehicles was limited to reviewing specifications provided by the tenderers.

3.48 Defence's August 2007 Source Evaluation Report initially ranked the tender response from Stewart and Stevenson last of the five tenders on the basis of value-for-money, and noted that the proposal exposed the Commonwealth to very high risk, including schedule risk, cost risk, quality and performance risk. Despite this assessment, Defence elevated the Stewart and Stevenson proposal to the position of preferred tenderer on the basis that it was the most affordable. Defence's decision exposed the Commonwealth to the potential acquisition of a fleet of vehicles assessed as failing to meet both key capability and technical requirements, introducing significant risk to the acquisition process. Defence also did not have sufficient regard to the 2005 *Commonwealth Procurement Guidelines*, then in operation, which established value-for-money as the core

86 Defence projects are added to this list when, for example, there are significant challenges with scheduling, cost or capability delivery.

principle underpinning Australian Government procurement and made clear that this principle required an analysis of all relevant costs and benefits of each proposal, in addition to financial cost.

3.49 Defence's Acquisition Strategy was to provide the then Government with a shortlist of two preferred suppliers for second-pass approval, and to subsequently conduct an Offer Definition and Refinement Process (ODRP) to determine the most suitable supplier. However, at the second-pass approval stage in August 2007, Defence diverted from its Acquisition Strategy and recommended that only one medium and heavy vehicle supplier (Stewart and Stevenson) proceed to the ODRP. This revised approach was adopted notwithstanding that Defence had not at that stage conducted any preliminary on or off-road vehicle testing. Further, Defence did not advise the Government about the assessed risks, mentioned above in paragraph 3.48, relating to the preferred proposal.

3.50 As the acquisition entered the ODRP phase, Defence identified two key issues which eventually led to: the cancellation of negotiations with Stewart and Stevenson; and a tender resubmission process for the medium and heavy vehicle fleet. The first issue related to whether Stewart and Stevenson would be able to satisfy government requirements for a mixed fleet of military off-the-shelf (MOTS) and commercial off-the-shelf (COTS) vehicles. While Defence had expected the then Government to approve procurement of a MOTS fleet, the Government decided in August 2007 to procure a mixture of MOTS and COTS vehicles, necessitating a change in the Basis of Provisioning. This meant that the information on the required number and type of vehicles, provided to suppliers when the tender was released in December 2005, was no longer current. Concerns subsequently emerged within Defence that Stewart and Stevenson may not be able to satisfy the new requirements of the Basis of Provisioning because the company did not make MOTS prime mover variants, now under consideration. A second key issue related to deficiencies in the detailed vehicle specifications provided by Stewart and Stevenson in November 2007, as compared to data provided for the tender evaluation process.

3.51 In February 2008, DMO proceeded to demonstration and compliance testing of the Stewart and Stevenson MOTS vehicles. The testing confirmed significant deficiencies in the vehicle's capability against Defence requirements, and inconsistencies between the test vehicle dimensions and specifications, compared to those originally documented in the tender response. After seeking advice from the Defence probity adviser, Defence cancelled negotiations with Stewart and Stevenson in May 2008.

4. Medium and Heavy Vehicle Fleet Tender Resubmission

This chapter examines the medium and heavy vehicle fleet tender resubmission process conducted in 2008, including industry solicitation, the tender evaluation and advice to government.

Introduction

4.1 Following Defence's withdrawal from negotiations with Stewart and Stevenson, the then Minister for Defence provided approval in July 2008 for Defence to return to the market for the medium and heavy vehicle capability. The Minister also agreed to reconsider options for the capability once the approach to market had concluded. The tender resubmission process provided Defence with an opportunity to apply the lessons learned from the initial tender process.

4.2 In this chapter, the ANAO examines:

- the 2008 tender resubmission process;
- government approval of Land 121 Phase 3B and contract negotiations;
- contractual arrangements for the vehicles and trailers; and
- Australian Industry Content requirements for the acquisition.

Tender resubmission process

4.3 The *Resubmission Procurement Strategy* for the medium and heavy vehicle acquisition was approved by DMO's Land 121 Project Manager on 5 December 2008, with a view to:

... identify, in the first instance, those vehicles that meet Army's capability requirements, as Army representatives have continually stressed the need to have capability drive the outcome. The approach also reduces the resubmission costs for industry and has their full support.

4.4 DMO designed a structured three stage approach for the tender resubmission:

- *Stage One:* Comparative Evaluation Testing of vehicles provided by a selection of suppliers and conducted by Capability Development

Group's (CDG's) Australian Defence Test and Evaluation Office (ADTEO⁸⁷). The testing was to result in the down-selection of suppliers;

- *Stage Two*: Submission of tenders by the down-selected suppliers, and evaluation of the tenders. As the intent of Stage One was to identify vehicles that were technically proficient and acceptable to Defence, the evaluation of tender responses in Stage Two was to focus heavily on commercial matters, including cost and contractual compliance; and
- *Stage Three*: Offer Definition and Refinement Process (ODRP) and contract negotiations.

4.5 The five suppliers that responded to the initial medium and heavy vehicle tender in 2007 were invited to participate in the first stage of the resubmission process, and were briefed on the changes to Defence's requirements.⁸⁸ Defence advised the suppliers that costs of up to \$1 million would be reimbursed by the Commonwealth for their participation in Stage One of the tender resubmission process, to contribute to the costs of vehicle demonstrations and tests. Defence also advised that a further \$1 million would be payable to the suppliers down-selected for Stage Two of the resubmission process.

Stage one of the tender resubmission process

4.6 In November 2008, CDG requested that ADTEO conduct an independent comparative trial in order to inform tender down-selection for the LAND 121 medium and heavy vehicles.⁸⁹ The objective of the trial was to:

- evaluate vehicle performance against Defence's Key Requirements Matrix⁹⁰;

87 The Australian Defence Test and Evaluation Office (ADTEO) is a joint internal organisation that delivers expert Test and Evaluation (T&E) support to Defence. The mission of ADTEO is to deliver independent T&E support to Defence.

88 The suppliers were Mercedes-Benz Australia/Pacific (formerly DaimlerChrysler Australia/Pacific), MAN Nutzfahrzeuge (which would later form a part of Rheinmetall MAN Military Vehicles), BAE Systems (which acquired Stewart and Stevenson), Mack Trucks and Thales (formerly ADI). Mack declined the offer to participate, but the other four suppliers provided vehicles for Stage One of the tender resubmission process.

89 In September 2014, ADTEO informed the ANAO that it is now common for all projects with a high or medium technical risk to request ADTEO to perform 'preview test and evaluation' or a 'down-select trial', normally between first and second-pass. In addition, the *Defence Capability Development Manual 2014*, part 3.2, formalises 'preview test and evaluation' as part of Defence acquisition policy.

90 The Key Requirements Matrix was used because Defence had not completed the Capability Definition Documents, which are normally used as the basis for testing. See paragraphs 2.11–2.15.

- objectively score vehicle performance using pre-established criteria and weightings; and
- score individual vehicle capability in a series of operationally representative tasks and identify operational issues for the vehicles.⁹¹

4.7 In April 2009, CDG released a directive to guide the testing, which was referred to as Defence Trial 871 (DT 871). The testing took place from May to October 2009. DT 871 included extensive field testing on public roads, and within military training areas in Puckapunyal and Townsville. Table 4.1 outlines the testing phases of DT 871.

Table 4.1: Testing phases of Defence Trial 871

Phase number	Description
Phase 1 Technical Evaluation	Accredited Test Services (ATS) within DMO's Land Engineering Agency developed an approach to measure and compare vehicle performance based on the Key Requirements Matrix. Concurrently, the Defence Science and Technology Organisation conducted a non-destructive physical and scientific analysis of vehicle armour.
Phase 2 Driver Training	Suppliers provided the ADF's Driver Testing Officers (DTOs) with formal driver training. DTOs then developed standardised formal training packages, and delivered training to 64 ADF test drivers of diverse ages, experience, physical characteristics and gender.
Phase 3 Field Testing	On and off-road testing ^A was conducted during a 12 week period, over a distance of 12 000km in eastern Australia. Test drivers spent at least 800–1000 km driving each vehicle in their allocated vehicle class. Test drivers were required to answer survey questions and participate in group discussions about the vehicles.
Phase 4 Final Confirmation Testing	Further testing was conducted on critical criteria, including capability trade-offs required when comparing protected and unprotected variants, and the performance differences between medium and heavy variants.

Source: Australian Defence Test and Evaluation Office, Defence Trial 871 Final Report, 2009.

Note A: In all, 24 protected and unprotected vehicles were supplied for testing. The vehicles were representative of 70 per cent of the vehicle fleet to be acquired.

4.8 The testing undertaken by ADTEO was an important step in the tender re-submission process. Testing provided assurance that the vehicles Defence was considering for second-pass approval met the minimum capability requirements, and helped avoid the key issues experienced in the initial tender process.

91 Trailers and modules were not tested as part of this trial.

4.9 The companies that supplied vehicles for Stage One of the tender resubmission process were also required to provide ‘not-to-exceed’ pricing for the variants offered.⁹² All suppliers provided cost estimates that exceeded the budget for Land 121 Phase 3B—in particular, the cost of the protected vehicles was significantly higher than the quotes provided as part of the initial tender process.

4.10 In the DT 871 Final Report, released on 13 November 2009, ADTEO recommended that specific variants offered by three suppliers should be considered as part of the next stage of the resubmission process:

- MAN Nutzfahrzeuge⁹³;
- Mercedes-Benz; and
- Thales.

4.11 ADTEO recommended that all the Stewart and Stevenson vehicles, and some MAN Nutzfahrzeuge, Mercedes-Benz and Thales vehicles, not be considered as part of the next stage of the resubmission process, as they failed to meet Defence requirements and/or demonstrated shortcomings that would prevent the vehicles from being suitable for ADF service. On 8 December 2009, Defence’s Option and Tender Evaluation Steering Group—comprising Defence personnel at the three star level—endorsed the three proposed suppliers to proceed to tender, as recommended by ADTEO.

4.12 In December 2009, Defence notified the then Minister for Defence that it had down-selected MAN Nutzfahrzeuge and Mercedes Benz to proceed to the second stage of the tender resubmission process for the medium and heavy vehicles. Thales was down-selected for only the medium variants.

Stage Two of the tender resubmission process

4.13 On 31 March 2010, Defence released a draft RFT to allow the three potential suppliers to ‘identify inconsistencies, ambiguities and unnecessary cost drivers in the tender package’. The final version of the RFT was released on

92 Financial information was sought to allow Defence to undertake a price analysis that would be sufficient to inform down-selection. The process was not intended to be a full assessment of costs. A fully costed tender package was only required from the down-selected companies.

93 MAN Nutzfahrzeuge and Rheinmetall formed the joint venture company Rheinmetall MAN Military Vehicles (RMMV). The Australian arm of RMMV, RMMV-A, participated in the revised tender process in 2009.

19 May 2010. The suppliers were given 12 weeks to respond, and the tender period closed on 17 August 2010.

4.14 Defence again formed Tender Evaluation Working Groups (TEWGs) to conduct detailed evaluations for particular areas of focus. The TEWGs considered the strengths, weaknesses, risks and deficiencies of each tender proposal in their respective areas, and developed a comparative assessment of the proposals.

4.15 The TEWG reports were reviewed by the Tender Evaluation Management Group (TEMG), which developed a value-for-money assessment and recommended an overall ranking of the suppliers. The final Source Evaluation Report was produced using the findings of the TEWG reports and TEMG assessments.

4.16 Rheinmetall MAN Military Vehicles-Australia (RMMV-A)⁹⁴, was assessed as the preferred tenderer overall, and was also ranked first for both the medium-weight and medium and heavy vehicles. Further, the tender assessment process indicated that selecting RMMV-A as the preferred tenderer for both the medium-weight and medium-heavy vehicle segments offered Defence the highest number of vehicles and modules.

4.17 The Finance TEWG noted that the three potential suppliers were rated as partially compliant, as all quotes exceeded Defence's budget. Based on the suppliers' prices, Defence would not be able to acquire the full Basis of Provisioning. At this stage, the Basis of Provisioning was still based on the number of Stewart and Stevenson vehicles Defence could afford in November 2007, following the initial second-pass approval.

4.18 The Source Evaluation Report listed 19 items for consideration during any contract negotiations with RMMV-A. The key items included:

- the percentage and value of Australian Industry Content;
- systems engineering non-compliances for the 'conceptual' Medium Recovery Vehicle⁹⁵;
- contractual non-compliance in relation to intellectual property and warranty; and

94 See footnote 93.

95 See Table 2.2.

- supply chain, spare parts and transportation costs.

4.19 The Tender Evaluation Steering Group (TESG) met on 15 December 2010, and provided in-principle agreement to the recommendation in the Source Evaluation Report that RMMV-A be selected as the preferred tenderer—contingent on a number of actions to be undertaken.⁹⁶ On 13 April 2011, the Tender Evaluation Board endorsed the Source Evaluation Report and the down-selection of RMMV-A as preferred tenderer. The Source Evaluation Report was subsequently endorsed by the then CEO DMO in late April 2011. Defence was then in a position to enter into detailed negotiations with RMMV-A as part of Stage Three of the tender resubmission process, discussed in the following section.

Government approval and contract negotiations

4.20 During Stage Three of the tender resubmission process, Defence obtained relevant approvals from the Government for Land 121 Phase 3B, conducted a Gate Review⁹⁷ of the project, undertook the ODRP and finalised contract negotiations. These processes took some two years from the time Defence endorsed the Source Evaluation Report in April 2011. Defence informed the ANAO in April 2015 that:

... during the period April 2011–April 2012, project activity consisted primarily of developing the Project Documentation Suite (PDS) to inform the Capability Gate Review Board (CGRB) decision planned for 7 December 2012.

Subsequently, the project was not considered by CGRB, but was considered directly by the more senior committee, the Defence Capability Committee (DCC). The timeframe of 12 months taken to develop and staff the PDS for Land 121 3B is consistent with the standard capability development process, as articulated in the Defence Capability Development Manual.

Concurrently, other areas within Defence were planning and preparing for two activities: the ODRP and contract negotiations, and developing DMO's components of the PDS.

4.21 The suppliers informed the ANAO that during the 16 month period between January 2011 and April 2012, Defence did not provide any project status or schedule information.

⁹⁶ For example, the Tender Source Evaluation Report recommended that Defence should reconsider the Basis of Provisioning for the heavy vehicles, due to the unexpectedly good mobility shown during testing, and that consideration should be given to the sub-segmentation of protected and unprotected vehicles.

⁹⁷ Gate Reviews are described in footnote 23.

Interim-pass approval

4.22 Defence originally intended to seek second-pass approval from Ministers once the Source Evaluation Report had been finalised. However, Defence instead sought interim-pass approval for the medium and heavy acquisition in December 2011. Interim-pass approval is an option available to Defence for certain programs which carry significant levels of risk, as described in the *Cabinet Handbook 2009*:

... complex projects with a high degree of cost and/or capability risk or requiring significant financial commitment may return for interim pass decisions between first and second pass. This process enables the Government to make incremental decisions at key project milestones and for Defence to obtain direction from the Government in relation to changes in strategic circumstances.

4.23 Defence was granted interim-pass approval⁹⁸ for the medium and heavy vehicle acquisition on 5 December 2011. Ministers agreed to:

- RMMV-A and Haulmark Trailers as the preferred tenderers for the medium and heavy vehicle capability, and for Defence to proceed to the ODRP;
- reduce the percentage of protected (armoured) vehicles from 40 per cent to 30 per cent;
- the medium and heavy fleet of trucks consisting of 1145 protected and 1550 unprotected vehicles and associated trailers; and
- cost-capping the medium and heavy vehicle acquisition at \$3.209 billion.

4.24 Defence advised Ministers at the interim-pass stage that several issues regarding RMMV-A's compliance with Defence requirements would require attention prior to second-pass approval. These issues included: the development of an appropriate design and review process; confirmation of the value of Australian Industry Content; and confirmation of the vehicles' ability to integrate with Defence's electronic warfare systems.

4.25 Overall, the quality of advice provided to the Government at interim-pass was an improvement on the advice provided by Defence for the

98 For the medium and heavy vehicle acquisition, the 2007 second-pass approval had effectively been revoked as a result of the tender resubmission process.

initial second-pass in 2007.⁹⁹ Defence provided a more thorough justification for the selection of its preferred vehicle supplier, RMMV-A, and provided comparative information on the RMMV-A proposal and the two other tender proposals. Further, Defence's advice to Ministers was more soundly based, due largely to the ADTEO testing undertaken during 2009.

4.26 Notwithstanding these positive features of Defence's advice, its discussion of capability/cost trade-offs for the respective proposals remained limited. Defence justified the selection of RMMV-A as the preferred supplier by indicating that the other suppliers were unable to provide a similar capability at a cheaper unit price. In its advice, Defence did not clearly address the key capabilities of the RMMV-A vehicles, or how they met Defence's future land force requirements.

Gate Review

4.27 A DMO Gate Review was held on 13 December 2011 to determine the readiness of Land 121 Phase 3B to proceed to the contract negotiation stage with RMMV-A. The Review listed 66 action items that would improve Defence's Contract Negotiation Directive for the forthcoming negotiation process, ranging from general actions to specific recommendations regarding scope, contracts, support and the budget. For example, the Review recommended that:

... there was a need to provide a clear definition of the maximum/minimum numbers and types of vehicles and modules to be acquired.

4.28 The Gate Review board also 'expressed a number of concerns' in regard to the 'appropriateness of the proposed contracting entity'—RMMV-A. These concerns included RMMV-A's low forecast profit margin for the medium and heavy vehicle acquisition, and that RMMV-A's European parent company, RMMV, would be its main sub-contractor. The Gate Review recommended that Defence negotiate and contract directly with the parent company RMMV, rather than RMMV-A. However, Defence's clear preference was to contract with an Australian entity.

99 See paragraph 3.26.

Offer Definition and Refinement Process

4.29 Defence commenced the ODRP in April 2012 following receipt of interim-pass approval. The ODRP was protracted due to an impasse in negotiations between the Commonwealth and RMMV-A in December 2012.¹⁰⁰

4.30 In December 2012, Defence's Negotiation Reference Board¹⁰¹ consulted the CEO DMO on the lack of progress in the ODRP and contract negotiations.¹⁰² The CEO DMO decided to escalate DMO's level of engagement from the RMMV-A Project Director to the CEO of the European parent company—RMMV. In February 2013, the two CEOs met and agreed that negotiations would recommence with the aim of resolving all outstanding issues by the end of March 2013.

4.31 The CEO RMMV appointed a new Project Director to lead the reconvened negotiations and committed to strengthening the RMMV-A team with additional resources. A number of key specialist RMMV-A positions in Australia were filled with employees from the European parent company.

4.32 Negotiations were subsequently conducted in March 2013, and at the end of this process the Tender Evaluation Management Group concluded that:

... the matters giving rise to the Commonwealth's dissatisfaction with RMMV-A's performance, and the remaining concerns ... had now been satisfactorily resolved.

Second-pass approval

4.33 In March 2013, Defence's Project Implementation and Review Board (PIRB)¹⁰³ recommended that Defence seek second-pass approval for Land 121 Phase 3B in July 2013, on an accelerated schedule. There were two key schedule drivers: the desire to secure second-pass approval and enter into contracts prior to the commencement of government caretaker arrangements before the

100 For example, the negotiation team reported that pricing stability was an ongoing issue. In each response to negotiations, RMMV-A had increased its prices with 'no clear justification'.

101 The Negotiation Reference Board was established to provide high level oversight of the Land 121 Phase 3B contract negotiations, particularly where issues arose which were outside the scope and bounds of the endorsed Contract Negotiation Directive.

102 The chair of the Negotiation Reference Board was intended to be the CEO DMO, but in all but one meeting he was represented by his Deputy.

103 The Project Implementation and Review Board (PIRB) provides confirmation of the strategic need and project scope identified during the first-pass approval process, and confirms and commits the resources required from Capability Development Group (CDG) and Defence's Acquisition Agency to achieve second-pass approval. The Chair of the PIRB is the Chief of CDG.

September 2013 federal election; and the expiry of tender proposals with both RMMV-A and Haulmark Trailers in December 2013. Defence estimated that if it did not obtain second-pass approval on the accelerated schedule, there would be a further 12–18 month delay in the project.

4.34 By 2013, the requirements for advising Ministers at second-pass had evolved since the initial second-pass was undertaken in 2007. Defence policy required a suite of plans, certifications and committee submissions to be developed and endorsed prior to second-pass consideration. A draft submission for the Government's consideration was developed by Defence through a truncated internal committee process, which did away with a review by the Capability Gate Review Board.¹⁰⁴ However, four key documents—last updated between 2005 and 2007—were not updated for the 2013 revised second-pass approval process. These documents were the: Operational Concept Document; Function and Performance Specifications; Early Test Plan; and Environmental Impact Assessment. The documents should have been updated over the life of the project, and up-to-date versions provided for the revised second-pass approval.¹⁰⁵

4.35 By the time the revised second-pass approval for the medium and heavy vehicle capability occurred on 8 July 2013, some six years had passed since the initial second-pass approval. Ministers approved:

- the acquisition of 2536 vehicles and associated modules from RMMV-A, and 1582 trailers from Haulmark Trailers, with an initial operational capability date of 2019, and a final operational capability date of 2023;
- entry into support contracts with RMMV-A and Haulmark Trailers;
- an acquisition budget of \$3.382 billion¹⁰⁶;
- Net Personnel and Operating Costs of \$392.9 million¹⁰⁷;

104 The Capability Gate Review Board (CGRB) reviews the draft cabinet/ministerial submission, and endorses the capability proposal to be provided for government consideration and approval. The CGRB is generally the last opportunity for significant risks and issues to be raised by, and discussed with, senior stakeholders. The chair of the CGRB is CDG's Head Capability Systems.

105 The lack of updated Capability Definition Documents was examined in Chapter 2.

106 Project Land 121 Phase 3B was considered by the Defence Capability Investment Committee five times in 2011, due to ongoing concerns regarding the affordability of the project. In 2011, the then Government approved \$664.3 million in supplementation for Project Land 121, most of which would be used by Phase 3B.

- the development of facilities to support the medium and heavy vehicle capability at a cost of \$39.2 million; and
- the acquisition of an additional 1070 medium and heavy vehicles, modules and associated trailers through LAND 121 Phase 5B, at a cost of \$1.09 billion.¹⁰⁸

4.36 Ministers also approved the re-design and upgrade of 49 Bushmaster vehicles at Thales' Bendigo plant for use as general maintenance vehicles for the medium and heavy vehicle fleet, at a cost of \$20.7 million. As with the 2007 purchase of an additional 256 Bushmasters¹⁰⁹, Defence's second-pass advice did not include a justification of the Bushmaster funding on capability grounds. However, in earlier advice to Ministers, Defence had signalled the need to ensure Thales' Bendigo plant remained open until the production of the Hawkei Protected Mobility Vehicle (PMV) commenced in 2016, in order to reduce the start-up costs of production and maintain technical skills.¹¹⁰

Contractual arrangements

4.37 On 23 July 2013, two weeks after second-pass approval, Defence entered into contracts for the medium and heavy vehicles and modules (with RMMV-A), and the trailers (with Haulmark Trailers (Australia)).¹¹¹ Defence also signed through-life support contracts with RMMV-A and Haulmark Trailers (Australia) on 13 July 2013.

107 Net Personnel and Operating Costs comprise the estimated cost of operating a new or upgraded ADF capability over its lifetime minus the estimated the cost of continuing to operate the capability it replaces over that period.

108 The Government provided interim-pass approval for Land 121 Phase 5B.

109 See paragraph 3.33.

110 Defence's Land 121 Phase 3B interim-pass advice to the then Government in December 2011 highlighted the possible closure of the Thales production line:

... the expected closure of the Thales production line in late 2012, resulting from the production of the last Bushmaster PMV and first production of a Hawkei PMV-L in early 2016, could result in additional start up costs to [Hawkei] production. In addition, staff with the necessary technical skills could be lost permanently from Thales, which may complicate the production of the [Hawkei].

In December 2011, the then Government announced that Thales Australia's Hawkei vehicle had been selected for further testing and development under Project Overlander LAND 121 Phase 4.

111 Haulmark Trailers was initially selected as the preferred supplier for the Phase 3 trailer capability in 2007. Defence subsequently delayed contract signature with Haulmark Trailers for five years until the supplier for vehicles and modules was selected.

4.38 The contracts between the Commonwealth, RMMV-A, and Haulmark Trailers include a number of provisions intended to protect the Commonwealth's interests. These include:

- liquidated damages in the event of the contractor delaying the achievement of milestones beyond the milestone date. Under the contract, the value of liquidated damages is based on the sustainment cost of keeping the in-service fleet operational for the period of the delay; and
- stop-payment milestones, which allow the Commonwealth to withhold payments from the contractor for failure to achieve nominated milestones or delivery dates, or failure to meet other agreed contractual provisions. In the Acquisition Contract with RMMV-A, Defence has outlined 49 milestones, 55 per cent of which are classified as stop-payment milestones.

4.39 Intellectual property rights are another important consideration for the acquisition of specialist military equipment, as they allow Defence to conduct its own maintenance and modifications, and can result in savings over the life of the capability. Control over intellectual property rights was a key issue during the contract negotiations between Defence and RMMV-A. RMMV-A ultimately granted the Commonwealth a licence to exercise Background Intellectual Property and Foreground Intellectual Property¹¹² for Defence purposes, including to properly use, maintain, modify, develop and dispose of the supplies and any mission or support system.

Strategic Agreements

4.40 In addition to the vehicle and sustainment contracts, Defence entered into Strategic Agreements with RMMV-A and Haulmark Trailers¹¹³, which aim to establish the framework for future business relations between the parties. Under the Strategic Agreement with RMMV-A, the company may be able to supply an additional 1070 unprotected medium and heavy vehicles and

112 Background IP typically exists prior to performance of a contract or is developed independently by a party to the contract, and Foreground IP is developed in the course of a contract by one or more of the parties to the contract. For further details see: Attorney-General's Department, *Australian Government Intellectual Property Manual*, March 2012, AGD, Canberra, p. 145.

113 As Haulmark Trailers is the prime contractor for the light/lightweight trailer acquisition (Land 121 Phase 3A), Defence had already established a support contract and Strategic Agreement with the company. The medium heavy trailer acquisition was incorporated into the existing support contract and Strategic Agreement.

modules under Phase 5B of LAND 121, provided the company performs satisfactorily during Phase 3B. Defence plans to use three measures to assess RMMV-A's performance under Phase 3B. The measures consider RMMV-A's commitment to the strategic relationship, delivery of supplies and performance against Defence's Company Scorecard.¹¹⁴ Defence's assessment will inform a future decision on Phase 5B.

4.41 While Phase 5B received interim-pass approval in July 2013, the Strategic Agreement does not guarantee RMMV-A exclusive rights to supply the additional vehicles and modules.¹¹⁵ However, should the Commonwealth exercise its rights to acquire vehicles from another supplier for Phase 5B, Defence would operate a mixed fleet of vehicles, with implications for ongoing sustainment and training costs.

4.42 As part of its offer to supply the vehicles and modules under Phase 5B, RMMV-A informed Defence that it would offer the Commonwealth a maximum of 1100 vehicles and 800 modules at the same price as Phase 3B, provided:

- delivery of the vehicles and modules is completed by 31 December 2020; and
- the Commonwealth gives a minimum of seven months' notice, prior to the delivery of the initial additional vehicles.

Requirements for Australian Industry Content

4.43 The Acquisition Contract with RMMV-A requires that Australian Industry Content account for 30 per cent of the total value of the contract, which equates to \$478 million. In October 2013, RMMV-A released an Australian Industry Content Plan, which outlined the company's strategy to manage its Australian Industry Content obligations. Under the strategy, the required level of Australian Industry Content will primarily be achieved through subcontracting the production of modules to Australian manufacturers. Further, RMMV-A's Australian Industry Content Manager is responsible for ensuring the

¹¹⁴ The Company Scorecard Program is a system that enables Defence to assess the performance of its most significant prime and sub-contractors, against nine categories, particularly in the critical areas of technical performance, cost and schedule. The Company Scorecard, which identifies a company's past contract performance, is also used to inform future source selection decisions.

¹¹⁵ Similarly, the Strategic Agreement with Haulmark Trailers does not guarantee the company exclusive rights to supply trailers under Phase 5B.

company meets its Australian Industry Content obligations, and regularly reports on performance.

4.44 In December 2013, the then Minister for Defence requested an external review of the Australian Industry Content of the Land 121 Medium Heavy vehicle capability. An external consultancy was engaged in March 2014 to undertake the review, and provided a report to Defence on 31 March 2014. The review concluded that Defence had given appropriate consideration to the Australian Industry Content of the project throughout the procurement process.

4.45 The Acquisition Contract does not include penalties that could be applied to RMMV-A if it fails to meet its Australian Industry Content obligations. However, the external review concluded that a failure to comply with the obligations could be considered a default, which would allow the Commonwealth to immediately terminate or reduce the scope of the contract by notice in writing to RMMV-A.

4.46 As at October 2014, RMMV-A has produced three Australian Industry Content progress reports for the medium and heavy vehicle acquisition. In these reports, RMMV-A summarised activities undertaken during the reporting periods, milestones achieved, and any contract change proposals. RMMV-A reported in October 2014 that its expenditure to date on Australian Industry Content was some \$13 million lower than anticipated, due to delays in engaging Australian subcontractors. Nonetheless, RMMV-A considered that it remained on track to meet its total Australian Industry Content commitment over the life of the project.

Conclusion

4.47 After withdrawing from negotiations with Stewart and Stevenson in May 2008, Defence obtained government approval in July 2008 to return to the market for revised offers for the medium and heavy vehicle fleet. Defence recognised the shortcomings in its first (2005–2007) tender process, and decided to conduct preliminary testing of vehicles, before inviting a shortlist of suppliers to submit tenders. The first stage of the tender resubmission process involved comparative evaluation testing of prospective vehicles by the Australian Defence Test and Evaluation Office (ADTEO) in 2009. The preliminary testing included a technical evaluation against requirements, driver training and on/off-road testing. The ADTEO testing eliminated vehicles from the tender resubmission process that did not meet Defence's capability needs, including

those proposed by Stewart and Stevenson. Vehicles submitted by RMMV-A, Mercedes-Benz and Thales proceeded to the second stage of the process.

4.48 In May 2010, Defence released an RFT to the shortlisted vehicle suppliers. Each of the firms provided a response by the due date in August 2010, and Defence evaluated the responses to determine the most competitive tender representing the best value-for-money. RMMV-A was ranked first or second against all of the selection criteria, including capability, support and schedule, and overall risk. Selecting RMMV-A also offered the Commonwealth the highest number of vehicles and modules within budget constraints. Defence's Source Evaluation Report concluded that RMMV-A was Defence's preferred capability solution.

4.49 Defence received interim-pass approval from the then Government in December 2011 to commence an Offer Definition and Refinement Process (ODRP) with RMMV-A. As part of the ODRP, Defence was expected to address several compliance issues arising from RMMV-A's tender before obtaining second-pass approval. Overall, the quality of Defence's advice to Ministers at interim-pass was an improvement on the advice provided for the initial second-pass process in 2007. Defence provided a more thorough justification for the selection of its preferred tenderer, RMMV-A, and provided comparative information relating the RMMV-A proposal to those received from the other two tenderers. Further, Defence's advice to Ministers was more soundly based, due largely to the vehicle testing undertaken by ADTEO during 2009.

4.50 The ODRP discussions with RMMV-A became protracted during 2012, and culminated in a February 2013 meeting between the CEOs of DMO and RMMV-A's parent company to address outstanding issues. The negotiations between Defence and RMMV-A concluded in March 2013, some 14 months after the commencement of the ODRP. Defence subsequently received second-pass approval from Ministers in July 2013 to acquire the medium and heavy vehicles from RMMV-A, and Haulmark Trailers was again confirmed as the trailer supplier. Defence signed contracts with RMMV-A and Haulmark trailers in July 2013, and entered into a strategic agreement with the two suppliers for the possible further delivery of vehicles and trailers under Phase 5B of LAND 121—however, no guarantees relating to the supply of vehicles and trailers under Phase 5B were provided to the suppliers under this agreement.

5. Acquisition Status and Sustainment

This chapter examines the status of the medium and heavy vehicle fleet acquisition. It also examines the availability and sustainment of the in-service medium and heavy vehicle fleet.

Introduction

5.1 Following the commencement of contracts with RMMV-A and Haulmark Trailers in July 2013, Defence and the contractors have undertaken a series of design reviews for the vehicles, modules and trailers, with production due to commence in mid-2016. The scheduled date for achievement of final operational capability is seven years later, in 2023. The ADF's in-service fleet of medium and heavy vehicles has well exceeded its nominal life-of-type and by 2023, elements of the remaining fleet will be 40 years old. Maintaining elements of the in-service fleet of vehicles until 2023 is a major challenge for Defence, as the fleet has experienced deteriorating reliability and capability, reduced availability of spare parts and increased maintenance costs.

5.2 In this chapter, the ANAO examines:

- the status of the medium and heavy vehicle fleet acquisition;
- sustainment arrangements for the new fleet; and
- ongoing sustainment of the in-service fleet.

Status of the medium and heavy vehicle fleet acquisition

5.3 As previously discussed, Defence entered into contracts with RMMV-A and Haulmark Trailers in July 2013. Since that time, Defence's key activities for the medium and heavy vehicle fleet acquisition have included the conduct of design reviews for the different vehicle, module and trailer variants, and management of systems integration.

Conduct of design reviews

5.4 In January 2014, Defence, RMMV-A and Haulmark Trailers commenced the design review process to establish the final configurations of the medium and heavy trucks, modules and trailers. The purpose of design reviews is to demonstrate how the design of the vehicles and trailers will satisfy the requirements contained in the System Specifications. This process involves the

conduct of Preliminary Design Reviews, followed by Detailed and Critical Design Reviews.

5.5 Defence's schedule for design reviews provided for all Preliminary Design Reviews to be completed by March 2015. Table 5.1 shows that by April 2015, the Preliminary Design Reviews for most vehicles and modules, and for two of the ten trailer variants, had been completed. The Preliminary Design Review for the Heavy Fuel Tanker is now scheduled to be completed in August 2015, and design reviews for four modules—the gun stores, gun ammunition, medium weight line-laying, and heavy static command post—will not commence until a suitable supplier is contracted.

Table 5.1: Progress of design reviews, as at April 2015

	Design Review Stage		
	Preliminary	Detailed	Critical
Vehicles			
Medium weight, tray	✓	✓	
Medium weight tray, with crane	✓	✓	
Medium weight, tipper	✓		
Medium, recovery	✓		
Heavy, Integrated Load Handling System	✓	✓	✓
Heavy, tipper	✓		
Heavy, recovery	✓		
Heavy, tractor	✓		
Heavy, fuel (tanker)	Aug–15		
Modules			
Water pump and storage	✓		
Water storage	✓		
Fuel pump and storage	✓		
Fuel storage	✓		
Heavy stores	✓		
Flatrack	✓	✓	✓
Gun stores	A		
Gun ammunition	A		

	Design Review Stage		
	Preliminary	Detailed	Critical
Bridge erection propulsion boat and floating support bridge	✓	✓	✓
Medium weight line-laying	A		
Heavy static command post	A		
Medium weight stores	✓		
Maintenance	✓		
Personnel and Cargo Restraint System	B		
Combat Engineer section stores	✓		
Trailers^c			
Medium weight, cargo	✓	✓	N/A
Heavy, Integrated Load Handling System	✓	✓	N/A
Medium equipment transporter, heavy equipment, heavy bulk fuel and dolly low loaded variants	To be reviewed between April and September 2015		
Heavy equipment transporter, heavy cargo, heavy bulk water, and dolly road train converter variants	To be reviewed between June and December 2016		

Source: Department of Defence.

Note A: The gun stores, gun ammunition, medium weight line-laying, and heavy static command post modules are not included in the contract signed with RMMV-A, and as at April 2014 their procurement had not yet been planned. Defence could not advise when the design reviews will occur for these modules, or when they will enter service. Defence plans to acquire 567 of these modules.

Note B: DMO informed the ANAO that the Personnel and Cargo Restraint System module is already in use as part of the in-service medium and heavy vehicle fleet. While testing is required to ensure safe integration of the module as part of the new vehicle fleet, the design reviews are not considered necessary.

Note C: The trailers only undergo a Preliminary and Detailed Design Review.

Management of systems integration

5.6 Defence is the prime integrator for the medium and heavy vehicle fleet acquisition, with responsibility for the interfaces between the vehicles and trailers, and between the vehicles and Command, Control, Communications, Computer and Intelligence (C4I) systems. However, Defence did not effectively progress planning for the integration of vehicles and trailers after interim-pass

approval of the preferred suppliers in 2011¹¹⁶; and also did not maintain up-to-date Capability Definition Documents to help clarify requirements.¹¹⁷

5.7 In July 2013, Haulmark Trailers advised DMO that it had identified a number of interface design issues between some vehicles and trailers, relating to:

- vehicles with different maximum loads than listed previously, resulting in reduced trailer payload capability;
- critical technical drawings not provided to Haulmark Trailers;
- the gross combination mass of some vehicles and trailers, when fully laden, exceeded legal limits; and
- the coupling location on some vehicles varied in height, and differed from the Systems Specifications for the trailers.

5.8 In September 2013, DMO requested that RMMV-A provide detailed trailer interface information. RMMV-A responded to the request, and DMO in turn provided the information to Haulmark Trailers in November 2013. Defence also established an Integrated Control Working Group to identify the information required to develop the interfaces between each vehicle and its associated trailer. The first Integrated Control Working Group meeting was held in December 2013, five months after contract signature. Subsequent meetings were held in May 2014, November 2014 and March 2015. The meetings have provided a useful forum to identify and discuss interface issues, and set timeframes for the resolution of issues. Further, Interface Control Documents are being developed for each vehicle and trailer, and these documents contain precise engineering specifications.

5.9 Defence is also managing risks associated with the integration of the medium and heavy vehicles and C4I systems. At second-pass in July 2013, Defence assessed the technical risk of the acquisition as medium and identified the potential for electromagnetic interference between: the C4I systems and other systems within the vehicles; and the C4I systems and the vehicles. Defence advised Ministers that these C4I risks were not isolated to the project, and that it

116 DMO guidance on systems integration indicates that planning for integration should commence when the system is conceived, and that integration requirements should be detailed in the Operational Concept Document and Function and Performance Specifications.

117 See paragraphs 2.8–2.15 in Chapter 2 for further details on the shortcomings in Defence's development of Capability Definition Documents for the medium and heavy vehicle fleet acquisition.

was working with the Defence Science and Technology Organisation to manage them.

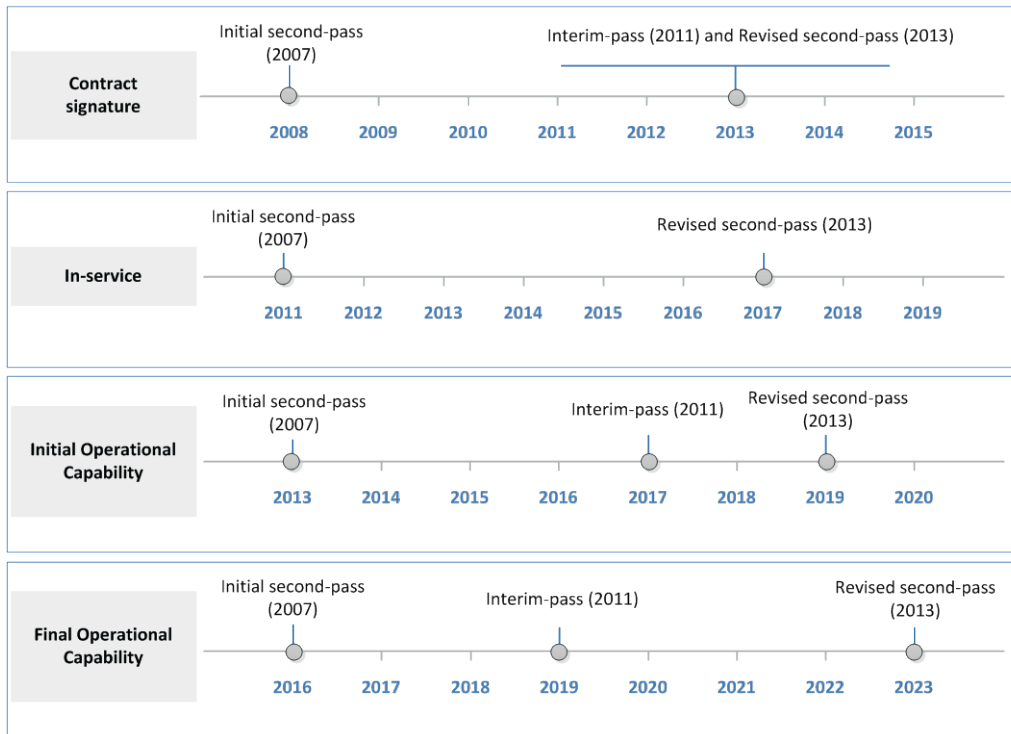
5.10 The design reviews conducted by Defence and RMMV-A have considered issues associated with the integration of the C4I systems and the vehicles. RMMV-A has also engaged a contractor with access to relevant expertise to help it address integration issues. In April 2015, Defence advised the ANAO that:

These risks remain extant from all vehicle projects but are under management of the Land C2 Council, which is chaired by Head Capability Systems, [Capability Development Group].

In relation to Land 121 Phase 3B, RMMV-A have engaged with external specialists and this has result in the reduction of these risks. Further risk reduction activities are currently underway and are the focus of the Validation and Verification activities.

Acquisition progress

5.11 When the then Government provided initial second-pass approval of Land 121 Phase 3 in 2007, the replacement medium and heavy vehicle fleet was scheduled to achieve Final Operational Capability in 2016. The aborted initial tender process and subsequent delays in finalising the tender resubmission process have delayed the scheduled achievement of Final Operational Capability by seven years to 2023. Figure 5.1 shows slippage in planned milestone dates between the initial second-pass approval in 2007, interim-pass approval in 2011 and the revised second-pass approval in 2013.

Figure 5.1: Slippage in major project milestones

Source: ANAO analysis of Defence project documents.

5.12 Following contract signature in July 2013, RMMV-A experienced delays in engaging subcontractors to develop modules, which in turn delayed the progress of RMMV-A's engineering design program by some nine months. Further, while most of the Preliminary Design Reviews were conducted on schedule, there has been slippage in some areas.¹¹⁸

5.13 Defence advised the ANAO in April 2015 that RMMV-A's schedule performance is being closely monitored, and that both RMMV-A and Haulmark Trailers were providing deliverables in line with their contracts. Defence further advised that it expects to meet the acquisition's critical milestones. The first key milestone is the commencement of Introduction Into Service Training in September 2016. Table 5.2 summarises the status of Land 121 Phase 3B, as reported internally by Defence in February 2015.

¹¹⁸ Refer to paragraph 5.5 and Table 5.1.

Table 5.2: Defence project status report, as at February 2015

Item	Status
Design reviews	<p>Scheduled design reviews continue to be held on vehicles and modules (with the exception of Artillery Ammunition).</p> <p>The Critical Design Review for the Truck-Heavy Integrated Load Handling System was completed on 2 February 2015. A number of action items have been raised that must be addressed before RMMV-A can exit this review stage. The Bridge-Boat Interface modules exited the Detailed Design Review.</p> <p>Acceptance Verification and Validation for Group A trailers commenced on 2 February 2015 and is progressing to schedule.</p>
Schedule	<p>The Initial Material Release (IMR), intended for 2018, is constituted by the provision of vehicles, modules, trailers and support sufficient to field a Battle Group. The IMR and the Final Materiel Release (2023) remain on schedule.</p>
Current schedule issues	<p>The Project continues to progress through the design Phase for vehicles, modules and trailers. No significant capability or technical issues have been encountered thus far.</p>

Source: Department of Defence, Internal Acquisition Progress Report, February 2015.

5.14 Defence advised the ANAO that as at March 2015, total expenditure on the medium and heavy vehicle fleet acquisition was \$112 million, with most expenditure to be incurred from mid-2016 when truck production commences.¹¹⁹ Defence further advised that there was sufficient budget remaining for the project to complete against its agreed scope, and the project had not applied any contingency funding to date. Under applicable budgeting arrangements, Defence is able to use approved funding later in the project, if it is not spent at the time initially anticipated due to project delays.

5.15 The ANAO has previously observed that cost and schedule risks tend to rise when acquisition programs approach the complex stage of systems integration¹²⁰, and Defence will need to maintain a focus on managing the remaining integration issues. Defence has worked with RMMV-A to manage the vehicle production schedule, and the production of the initial test vehicles commenced in April 2015.

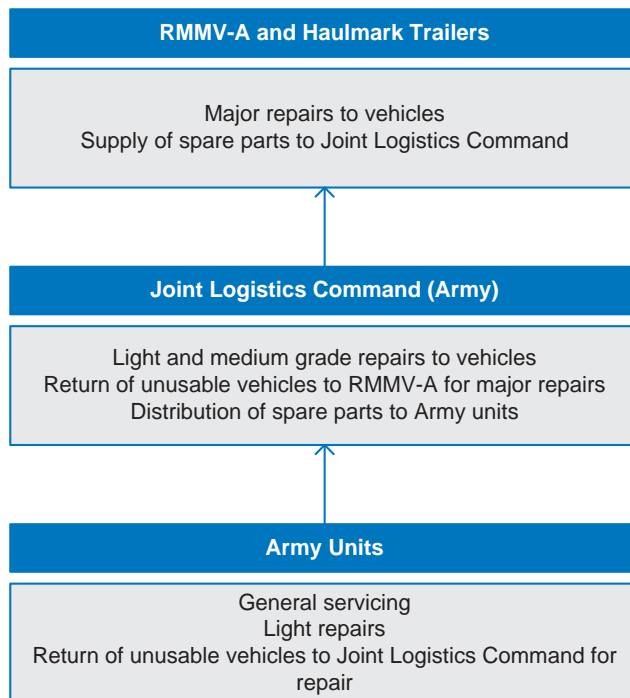
¹¹⁹ At second-pass approval in 2007, Land 121 Phase 3 (combined light/lightweight, Bushmasters, and medium and heavy vehicles and trailers) had an approved budget of \$3.531 billion (outturned)—outturned prices are estimates adjusted to incorporate the expected rate of inflation. After the initial tender process, the light/lightweight and medium and heavy vehicle fleet acquisitions were split into separate projects—the medium and heavy vehicle fleet acquisition became Land 121 Phase 3B. At second-pass in 2013 the then Government approved funding for Land 121 Phase 3B of \$3.382 billion (outturned). Following indexation of costs, and some adjustments to the projects' scope, the current Land 121 Phase 3B budget is \$3.386 billion (outturned), and the current Land 121 Phase 3A budget is \$1.021 billion (outturned).

¹²⁰ ANAO Audit Report No.22 2013–14, *Air Warfare Destroyer Program*, p. 23.

Sustainment of the new medium and heavy vehicle fleet

5.16 Contracting with single vehicle suppliers for the vehicles and trailers is intended to consolidate Defence's support and sustainment arrangements for the medium and heavy vehicle capability. Figure 5.2 summarises the sustainment arrangements.

Figure 5.2: Sustainment arrangements for the replacement fleet



Source: ANAO, based on Department of Defence documentation.

5.17 Under Defence's support contracts: heavy grade repair of the vehicles is to be conducted by RMMV-A at a facility to be established by the supplier in south east Queensland; and heavy grade repairs to the trailers will be conducted by Haulmark Trailers at its established facility in Brisbane. Further, general servicing and light repairs are to be conducted at Army units where possible, and by Joint Logistics Command if the Army units are not able to carry out the repairs.

5.18 RMMV-A and Haulmark Trailers are responsible under the support contracts for:

- interim support services for the vehicles and trailers during the testing, training and roll-out stages of the acquisition;

- engineering services;
- maintenance services;
- delivery of supplies and spare parts to Joint Logistics Command units;
- management of support services; and
- provision and management of the services required to support the fleet.

Sustainment of the in-service fleet

5.19 Sustainment of the in-service medium and heavy vehicle fleet has been an ongoing concern for Defence since first-pass approval was obtained in 2004 to replace the fleet. At the time of first-pass approval, Defence advised the then Government that:

... by 2008, 98 per cent of the current assets will have exceeded their life of type. The ageing fleets are increasingly costly to maintain, repair and operate, and have safety concerns. Over the last few years, logistic supplementation funding has been required to keep the [field vehicle and trailer] fleets operational, and some lines of spares are no longer manufactured.

5.20 In March 2010, DMO's Head Land Systems submitted a brief to the CEO DMO, Chief Capability Development Group, and Chief of Army, which again highlighted the challenges of maintaining the in-service medium and heavy vehicle fleet into the future. The Head Land Systems stated:

... the [in-service] fleets have passed their in-service use phase (where constant failure rate is experienced), and are now well into wear-out phase of the life cycle where increased failure rates (and increasingly unpredictable failures and threats to safe use) are experienced, and increased maintenance is required (increasing costs and management complexity).

Requirements for the fleets to be maintained at an operational availability of 75 per cent are not able to be met ... Unimogs are averaging 57 per cent operational availability, and Mack trucks are only averaging 47 per cent availability.

5.21 The Head Land Systems also advised on the risk that the Original Equipment Manufacturers may not provide ongoing support to the in-service vehicles, leaving Defence to carry responsibility for manufacturing replacement parts. In some cases, Defence already had to manufacture parts as the relevant Original Equipment Manufacturer was no longer trading.

5.22 The Head Land Systems identified two risk reduction options for sustaining the in-service fleet into the future, including a:

- Rebuild Program—which involved the reconditioning of vehicle components at a cost of \$350 million. This program would use existing sub-systems to restore the fleet to original condition. The program was expected to take five to ten years to complete.
- Recapitalisation Program—which involved the replacement of all major sub-systems including engines, drive systems, and suspension using new market-available systems at a cost of \$650 million. The program was expected to take 13 years to complete.

5.23 The Head Land Systems concluded that neither of the options represented value-for-money, and instead proposed continued investment in maintenance through contracts, and an increase in the annual sustainment budget for the fleet of \$25 million.

5.24 In December 2010, the Chief of Army endorsed a B Vehicle Reduction Program, which includes a reduction in the number of in-service medium and heavy vehicles.¹²¹ Under the Reduction Program, critical variants of vehicles cannot be disposed of. For the medium and heavy vehicle fleet, these variants include the Mack fuel and water tankers, and the Mercedes-Benz recovery vehicles.

5.25 The overall reduction in vehicle numbers was to be tracked and measured, and the cost reductions realised by the Reduction Program were to be re-invested as part of Defence's Smart Sustainment initiative. Defence has attributed sustainment savings of \$9.837 million, between 2011–12 to 2013–14, to the disposal of 346 Unimog and Mack vehicles under the Vehicle Reduction Program (Table 5.3).

¹²¹ The B Vehicle fleet includes approximately 12 000 trucks (including the medium and heavy fleet), trailers, motorbikes, quad bikes, and four and six wheel drive sedans.

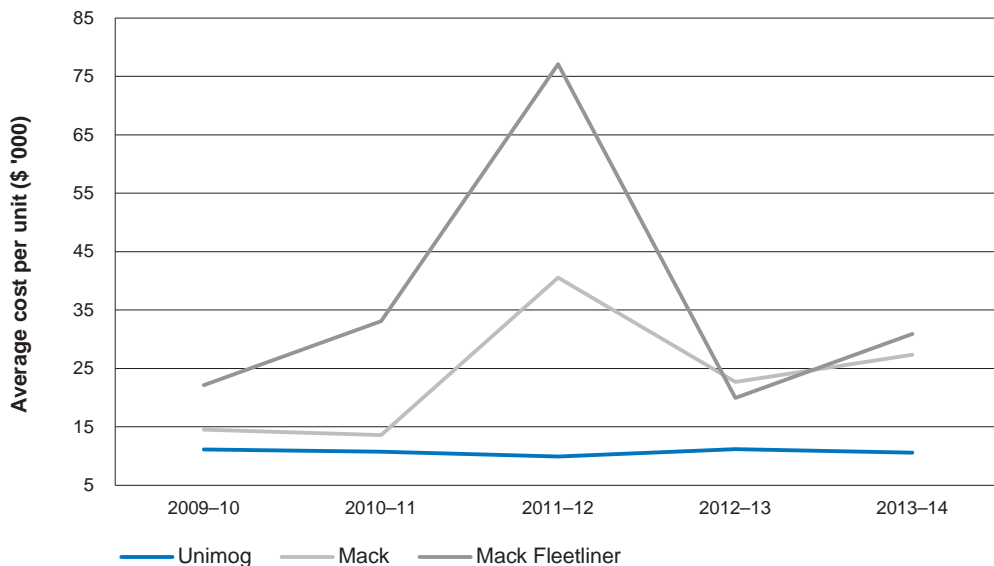
Table 5.3: Savings attributed to the reduction of the in-service medium and heavy vehicle fleet

	2011–12		2012–13		2013–14		Actual savings (\$m)
	Target (\$m)	Actual (\$m)	Target (\$m)	Actual (\$m)	Target (\$m)	Actual (\$m)	
Unimog	0.529	0.529	0.529	0.494	0.530	0.481	1.504
Mack	0.529	0.529	0.529	0.451	0.451	0.513	1.493
Crane recertification	5.580	5.580	1.170	1.260	-	-	6.840
Total savings (\$m)							9.837

Source: Department of Defence.

5.26 The ANAO examined changes in the average cost of sustaining the main vehicles in the in-service medium and heavy vehicle fleet—Unimog and Mack vehicles (Figure 5.3). While Defence has reduced vehicle numbers and disposed of uneconomical vehicles to help manage the ongoing cost of sustaining the in-service fleet, the average sustainment cost per Mack vehicle has increased by 80.9 per cent since 2009–10. The increasing costs reflect the advanced age of the Mack fleet, and difficulties experienced by Defence in acquiring spare parts. In contrast, the average cost of sustaining the Unimog vehicles has remained relatively stable.

Figure 5.3: Average cost of sustainment, per unit, of the in-service Unimog and Mack vehicles, 2009–10 to 2013–14



Source: ANAO analysis.

5.27 In advice to Ministers in July 2013, Defence highlighted the significant pressure being placed on the Mack fleet (see Figure 5.4):

... the Mack fleet is becoming obsolete as suppliers discontinue the manufacture of high cost, low volume parts. The Mack fleet is achieving availability levels of around 60 to 70 per cent and sustainment costs for the fleet continue to escalate, with some critical variants averaging around \$80 000 per vehicle to maintain.

To indicatively highlight the condition of the capability, one third of the South Queensland Mack [fleet] is in the process of being written off due to excessive rust following annual technical inspections. Defence assesses that, based on vehicle availability and the number of platforms written off each year, the Mack fleet will have difficulty supporting force generation activities from 2016 and in meeting strategic guidance from 2019.¹²²

Figure 5.4: Mack heavy truck 6x6



Source: Department of Defence.

5.28 In March 2015, DMO informed the ANAO that the availability of the in-service fleet fluctuates according to the maintenance needs of particular vehicles. Defence reported that on average, between July 2014 and March 2015, the Unimog fleet had an availability level of 74.3 per cent, and the Mack fleet had an availability level of 68.7 per cent. Defence internal reporting indicated

¹²² ANAO comment: Force generation activity relates to the ability of Defence to assemble the required number of vehicles to meet certain operational requirements; and strategic guidance relates to the ability of the vehicles to contribute to ADF capability.

that in 2013–14, the average cost of sustaining individual variants in the Unimog fleet ranged from \$1724 to \$59 376 (average cost of \$10 652), and from \$5416 to \$103 092 (average cost of \$27 899) for the Mack fleet.

Conclusion

5.29 After finalising contracts with RMMV-A and Haulmark Trailers in July 2013, Defence and the two suppliers agreed on design review processes. By April 2015, Defence had conducted Preliminary Design Reviews for most of the vehicle and module variants, and two of the ten trailer variants. The design reviews considered two key acquisition risks: the interoperability of the vehicles, modules and trailers; and the integration of Command, Control, Communications, Computer and Intelligence (C4I) systems into the vehicles. Defence is responsible for ensuring the medium and heavy vehicles and trailers are interoperable with each other, and has established an Integrated Control Working Group to identify the information required by contractors for this purpose. Defence has also engaged a contractor to help resolve anticipated electromagnetic interference when the C4I systems are integrated with the medium and heavy vehicles.

5.30 There has been an overall project delay of seven years. When Ministers first provided second-pass approval for the earlier acquisition proposal in 2007, the replacement medium and heavy fleet was scheduled to achieve Final Operational Capability in 2016. The aborted initial tender process and the need for a tender resubmission process have delayed the scheduled achievement of Final Operational Capability to 2023.

5.31 The delays in the medium and heavy fleet acquisition have placed considerable pressure on the existing Unimog and Mack vehicle fleet, which has now well exceeded its life-of-type and is increasingly difficult and costly to maintain. Defence has reduced the overall size of the in-service fleet since 2010, by disposing of vehicles which were uneconomical to maintain; a process with attributed savings of \$9.837 million since 2011–12. Despite removing uneconomical vehicles, the average sustainment cost per vehicle for the Mack fleet has increased by some 80 per cent between 2009–10 and 2013–14, reflecting the advanced age of the fleet and difficulty in acquiring spare parts. In 2013–14, the average cost of sustaining Unimog variants ranged from \$1724 to \$59 376 (average cost of \$10 652), and from \$5416 to \$103 092 (average cost of \$27 899) for the Mack fleet. Defence informed Ministers in July 2013 that the Mack fleet will

have difficulty supporting some of Defence's operational requirements from 2016, underlining the importance of delivering the new fleet as scheduled.



Grant Hehir

Auditor-General

Canberra ACT

25 June 2015

Appendices

Appendix 1 Entities' Responses



Australian Government
Department of Defence

Mr Dennis Richardson
Secretary

Air Chief Marshall Mark Binskin, AC
Chief of the Defence Force

SEC/OUT/2015/ 111
CDF/OUT/2015/630

Dr Tom Ioannou
Group Executive Director
Australian National Audit Office
PO Box 707
Canberra ACT 6203


Dear Dr Ioannou

ANAO Section 19 Proposed Audit Report on the Procurement of Trucks and Trailers for the Australian Defence Force (Land 121 Phase 3B)

Thank you for the opportunity to review and comment on the Section 19 Proposed Audit Report for the audit into *Procurement of Trucks and Trailers for the Australian Defence Force (Land 121 Phase 3B)* provided to Defence on 11 May 2015. The full Defence response is contained at the Enclosures.

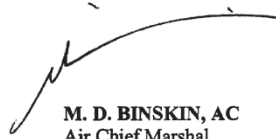
Defence welcomes the report and notes that the proposed report contains one recommendation.

Defence agrees that the proposed report reasonably reflects the history of the medium and heavy vehicle replacement process in Defence. Defence agrees with and undertakes to implement the one recommendation, and expects this will lead to greater clarity in future acquisition proposals as a direct result of this audit.

Yours sincerely


Dennis Richardson
Secretary

25 May 2015


M. D. BINSKIN, AC
Air Chief Marshal
Chief of the Defence Force

26 May 2015

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Defending Australia and its National Interests



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HMK-OUT-121-003

22 May 2015

Dr Tom Ioannou
Group Executive Director
Performance Audit Services Group
Australian National Audit Office
19 National Circuit
BARTON ACT 2600

Dear Dr Tom Ioannou

RE: Performance Audit: Procurement of Trucks and Trailers for the Australian Defence Force (Land 121 Phase 3B).

Thankyou for allowing us the chance to formally respond to the ANAO Audit Report before it is tabled to the Australian Parliament.

After reviewing the audit report excerpts, Haulmark Trailers (Australia) Pty Ltd has generally found them to be a fair and reasonable depiction of events over the period covered by the audit.

Haulmark also wishes to acknowledge that we were provided only with excerpts of the report that related to us and as such we could not comment on the report holistically.

Yours sincerely

Haulmark Trailers (Australia) Pty Ltd

SPENCER GRAMMER
Managing Director

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