

Department of Defence audit reports

Audit Report No. 45, 2004-05, Management of Selected Defence System Program Offices

Audit Report No. 3, 2005-06, Management of the M113 Armoured Personnel Carrier Upgrade Project

Introduction

- 5.1 The Committee selected two Audit Reports as part of its commitment to regularly review reports on Defence project and acquisition management. The two reports were Audit Report no. 45, 2004-05: *Management of Selected Defence System Program Offices*; and Audit Report no. 3, 2005-06: *Management of the M113 Armoured Personnel Carrier Upgrade Project*. In addition, the Committee subsequently announced a larger review into financial management and equipment acquisition at the Department of Defence (Defence) and Defence Materiel Organisation (DMO).
- 5.2 The Committee held a public hearing on 9 February 2006 to examine the above two reports. The Committee also forwarded a number of Questions on Notice to the Department of Defence for further information. The department's responses are published as submission 5 to the inquiry.

Audit Report No. 45, 2004-05: *Management of Selected Defence System Program Offices*

Background

- 5.3 This audit focused on the major capital equipment and logistics support managed by the Defence Materiel Organisation, which manages some 250 major capital equipment acquisition projects.
- 5.4 The audit included fieldwork from April to October 2004, with discussion papers issued to Defence in December 2004 and February 2005. The audit was tabled in April 2005.
- 5.5 Within DMO, the Capability Development Group (CDG) has responsibility for assessing and defining current and future Australian Defence Force (ADF) capability needs, and for managing Defence's overall major capital equipment investment program. CDG bases its management processes on a 'two pass' Government approval process, involving formal Government consideration of future Defence capability.
- 5.6 DMO manages its capital acquisitions projects through a national network of 46 Systems Project Offices (SPOs). These are located within four Divisions: Aerospace Systems Division; Electronic and Weapon Systems Division; Land Systems Division; and Maritime Systems Division.
- 5.7 In general terms, SPOs are responsible for:
- defining and monitoring contractor performance;
 - ensuring acquisition and logistics program integrity in terms of consistency with performance specifications, coherence with infrastructure planning and with other programs, and conformance with corporate, technical and specialist standards;
 - ensuring deliveries of new products or services meet requirements in terms of contracted performance, cost and schedule;
 - managing risks to the program's successful outcome;
 - initiating management interventions wherever gaps in the program are identified or issues arise; and
 - reporting progress of the program at regular intervals to the program's sponsor, Governance Board and DMO Senior Executives.

- 5.8 During February to May 2004, DMO undertook a due diligence analysis of its business as part of preparations for becoming a prescribed agency from 1 July 2005. The analysis found that of 156 major acquisition projects, 30 percent had already missed their agreed in-service date or had unrecoverable schedule slippage. A further 20 percent, while not yet late, would require intensive management to achieve their in-service date, and the remaining 50 percent should meet their in-service dates with normal management processes. The Due Diligence report also found that over the period 1981 to 2004, DMO's top 64 major acquisition projects incurred price increases totalling \$11.8 billion.
- 5.9 This audit report examined the operations of four SPOs, from different DMO Divisions. The SPOs subject to audit were:
- Aerospace Systems Division: Tactical Fighter Systems Program Office (TFSPPO);
 - Land Systems Division: Track Manoeuvre Systems Program Office (TMSPO);
 - Electronic and Weapon Systems Division: Over-the-Horizon Radar Systems Program Office (OTHRSPPO); and
 - Maritime Systems Division: Fast Frigate Guided System Program Office (FFGSPPO).
- 5.10 In view of the significant role that DMO's SPOs play in managing major capital equipment acquisition projects, the audit included a case study of the \$1.448 billion Fast Frigate Guided (FFG) Upgrade Project.

Audit objectives

- 5.11 The objective of the audit was to assess the adequacy of Defence's capital equipment project definition, approval, acquisition and logistics support management, at the system program management level.

Overall conclusion

- 5.12 The ANAO found that the formation of the Capability Development Group together with the two-pass Government approval process, should in the future result in improved capital equipment acquisition contract work definitions, and more accurate project cost and schedule estimates. Both of these initiatives came out of the 2003 Kinnaird Review.
- 5.13 The ANAO believed that the DMO's SPO structure should enable accountability to be effectively aligned to system acquisition and logistics support management. However, the ANAO found that there remained

scope for further improvement in the areas of DMO's standardised Business Process Model, project scheduling and status-reporting system, and within the technical integrity management systems within DMO's Maritime and Electronic and Weapon Systems Divisions.

- 5.14 The ANAO also found that in the period 1999 to mid-2003, the Fast Frigate Guided SPO financial records did not provide a reasonable level of assurance for the orderly, efficient and accountable measurement of the use of Australian Government resources. The ANAO was concerned that legislative and administrative requirements concerning the keeping of accounts and records may not have been met for a significant period, prior to mid-2003, in relation to this project. The ANAO includes a potential follow-up audit of the FFG Upgrade Project in its forward audit work program.
- 5.15 The audit highlighted differences in management processes between the four SPOs audited. The TFSP0 provided an example of better program management practice.

Recommendations

- 5.16 The ANAO made eight recommendations to Defence. The agency agreed with six recommendations, and agreed with qualifications and in principle to the remaining two recommendations.

Table 5.1 List of recommendations, ANAO Audit Report No. 45, 2004-05

1.	That Defence: (a) increase the priority of the Quality and Environmental Management System's development; and (b) as an interim measure, incorporate into the Quality and Environmental Management System appropriately amended Capital Equipment Procurement Manual 1 policy, to address content gaps. Defence response: Agreed.
2.	That Defence review training resources for Improve Project Scheduling and Status Reporting, to ensure that System Program Office personnel have adequate training to effect successful transition to the new system. Defence response: Agreed.
3.	That Defence establish a timetable for all Defence Groups to migrate to the mandated Defence Records Management System. Defence response: Agreed.
4.	That Defence increase the priority and assistance to DMO's Maritime Systems Division and Electronic and Weapon Systems Division System Program Offices to achieve Authorised Engineering Organisation certification, in order that they can provide improved assurance regarding safety and fitness for service of Australian Defence Force materiel. Defence response: Agreed with qualification.

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5. That Defence ensures that in future major equipment acquisition contracts:
- milestone payments are, where appropriate, aligned to the successful completion of mandated system reviews and tests and evaluations; and
 - full payments for milestones, which follow critical milestones, be made only when all critical milestone review issues are satisfactorily resolved.
- Defence response:** Agreed.
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6. That Defence promulgate to System Program Offices, guidance on the legislative and administrative process requirements for the payment of accounts and the keeping of proper records.
- Defence response:** Agreed in principle.
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7. That Defence review, on a regular basis, System Program Office's acquisition contracts administrative processes for the payment of the Goods and Services Tax.
- Defence response:** Agreed.
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8. That Defence provides specific training to all System Program Office liability approvers of their obligations to promote effective and efficient use of Australian Government resources in accordance with legislative and contracted obligations.
- Defence response:** Agreed
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SPO management issues

Staff levels, recruitment and retention

- 5.17 The audit report highlighted a number of workforce issues for the DMO; and issues with development of its project management methodology. In early 2005, DMO had approximately 6,500 staff, 75 percent of whom were civilians, with the remainder ADF members. In August 2004, DMO had 23 percent, or 1,709 positions, unfilled. Difficulties with recruitment included:
- a shortage of project management, engineering, and contract management skills;
 - the location of vacant positions; and
 - the remuneration offered.
- 5.18 The Committee sought an update on staffing levels at February 2006. DMO responded that the number of positions unfilled is not an accurate reflection of the vacancy levels. DMO did not provide a figure on staffing levels at February 2006. It argued that although more than 1,000 positions had been advertised since 1 July 2005, some of these have been advertised on more than one occasion, and other advertised positions end up not being filled due to changing management requirements.¹

1 Defence, submission No. 5, p. 1.

- 5.19 At the hearing, the Committee asked DMO to provide information on its staff's prior length of service prior to being posted to the DMO. Military personnel have 15 years' service prior to being posted. Civilian staff experience ranges between 12 and 15 years, depending on individual SPOs.²
- 5.20 The ANAO audit report found that the average military posting to DMO was 2.17 years, shorter than the recommended tenure of three years. The ANAO found that the length of postings could leave projects exposed to risks such as loss of staff continuity and corporate knowledge.³
- 5.21 In the Audit Report, the DMO responded that it was developing a business model to address the issue of military staff levels in DMO. While many jobs in the DMO could be filled by either military or civilian staff, the ANAO noted that much of the ADF weapon system acquisition and support skills rely on technical training and experience provided by the Services.⁴ In April 2006 DMO provided the Committee with an update on its military and civilian staffing:
- the ratio of civilian to military personnel at DMO is 3:1;
 - all project director and project manager appointments (civilian or military) are for a three or four year tenure;
 - the period of tenure for appointment of military personnel in project manager roles is to be no less than three years with any variation being subject to CEO DMO agreement;
 - for military preferred positions, those at Colonel (COL) level and above would normally be no less than three years with the majority of positions at four years. Tenure for those at Lieutenant Colonel (LTCOL) level and below is to be no less than two years, with the majority of positions at three years.⁵
- 5.22 DMO fills some of its specialist positions with Professional Services Providers (PSPs). PSPs are engaged to provide skills not available in the Australian Public Service, and to cover peak workloads. During 2004-05, 395 PSPs were engaged by DMO.

2 Defence submission No. 5, p. 4.

3 ANAO Audit Report No. 45, 2004/05, *Management of Selected Defence System Program Offices*, Commonwealth of Australia, May 2005, p. 35.

4 ANAO Audit Report No. 45, 2004/05, p. 35.

5 Defence, submission No. 5, p. 1.

Professional development

- 5.23 The Audit Report noted that DMO had embarked on a professional development program aimed at providing training in procurement and project management to many staff. The DMO was also aiming to enable its qualified engineers to become qualified to Certified Engineer status or equivalent. The target for uptake of this professional development was 50 percent by the end of 2005-06.
- 5.24 The CEO of DMO, Dr Stephen Gumley, told the Committee that at the time of the hearing (February 2006), there were over 400 DMO personnel undertaking courses in project management. Dr Gumley noted that industry also has problems with recruiting and retaining skilled project managers. A number of companies, such as BAE Systems, Raytheon and Tenix, are also providing project management training for their staff members.⁶
- 5.25 In answering Questions on Notice, DMO stated that it had 245 personnel (214 civilian, 31 military) with Chartered Engineer status – an increase from 125 in 2004. Approximately 31 percent of DMO engineers (civilian and military) are chartered and a further 63 percent are enrolled and pursuing chartered status.⁷ The Committee notes that this meets (in fact exceeds) DMO's target of 50 percent uptake of the program, and commends DMO for its efforts in this area.

Quality and Environmental Management System (QEMS)

- 5.26 In 2001 DMO commenced development of the Quality and Environmental Management System (QEMS), which was intended to be DMO's primary reference for capital equipment acquisition and logistics policy and management practice.
- 5.27 Sitting underneath QEMS, the System Project Offices already had their own Quality Management Systems (QMS); which contain detailed processes, support instructions, guidance and templates tailored to each SPO's operations.
- 5.28 The ANAO recognised the need for QEMS to properly integrate with the SPO-level quality systems already in place.

6 Dr Stephen Gumley, Defence Materiel Organisation, PROOF *Transcript of Evidence*, 9 February 2006, p. 2.

7 Defence submission No. 5, p. 2.

- 5.29 The ANAO acknowledged that DMO had made considerable effort with QEMS to document policy and process information covering IT, project management, software and systems, risk management, logistics and support. However, the ANAO stated:
- the information in QEMS is difficult to access, and falls short in providing guidance on translating policy into practice. QEMS lacks comprehensive treatment of financial policy, even compared to its predecessor, Defence's CEPMAN 1. For example, QEMS lacked policy guidance on variations to project approval. Project approval is a fundamental element of effective governance.⁸
- 5.30 The ANAO recommended that Defence increase the priority of QEMS development, and address content gaps in QEMS where necessary, using an updated version of the CEPMAN 1.⁹
- 5.31 The Committee followed up on development and implementation of QEMS. DMO stated that the target date for QEMS integration was December 2006. Defence has subsequently advised that this target date was met.¹⁰ From July 2006, all development work was expected to be complete, allowing efforts to be focused on migration to the new QEMS system. A new user interface, scheduled for release in June 2006, was expected to make it easier for users to access job-relevant policy and procedural information.¹¹ The new "Business Unit Graphical User" Interface was delivered in November 2006.¹²
- 5.32 Regarding the information gaps identified by the ANAO, DMO stated that it had conducted a 'gap analysis' on CEPMAN and QEMS. Additionally, the DMO Accounting Policy Manual and DMO Finance Instructions had been loaded into the QEMS system.¹³
- 5.33 At the hearing DMO told the Committee that ISO 9000 accreditation for QEMS was still some time away. An initial quality audit was conducted in December 2005. As a result of this audit, rectification work was underway in order for QEMS to reach the ISO standard.¹⁴ Defence has advised that the Executive phase of the DMO Quality Management System (DMO QMS), which QEMS is a supportive tool of, was established and certified
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8 ANAO Audit Report No. 45, 2004/05, p. 38

9 ANAO Audit Report No. 45, 2004/05, p. 38.

10 Defence QoN, 9 May 2007.

11 Defence, submission No. 5, p. 2.

12 Defence QoN, 9 May 2007.

13 Defence, submission 5, p. 2.

14 Dr Stephen Gumley, Defence Materiel Organisation, *PROOF Transcript of Evidence* 9 February 2006, p. 15.

to the AS/NZS ISO 9001:2000 international standard on 25 October 2006.¹⁵ The other two phases, DMO Corporate QMS and DMO Enterprise QMS, were to be delivered in 2007.

Record keeping

- 5.34 The ANAO report noted the importance of record keeping as a critical factor in accountability and performance. The DMO is utilising the IT-based Defence Records Management System (DRMS) for document management and record keeping. However, the ANAO found that implementation of DRMS across the DMO was inconsistent. In the case of the Fast Frigate Guidance System Project Office (one of the SPOs audited), there was a critical need for an improved record management system. The ANAO recommended that Defence establish a timetable for all Defence Groups to migrate to the mandated DRMS.
- 5.35 Defence told the Committee that the DRMS is implemented on a user pays/cost recovery basis within the organisation. At April 2006, approximately 42 percent of DMO staff were using the DRMS, with a further 350 staff undergoing training on the system. Other DMO units were considering implementing the system, as well as other Defence agencies with significant interactions with the DMO.¹⁶

Technical Regulatory Framework

- 5.36 Defence's Technical Regulatory Framework (TRF) aims to ensure that ADF equipment and systems may be operated without hazard to personnel or the general public, and also without negative effect on the environment.
- 5.37 Each Defence organisation involved with design and construction of ADF material must be authorised to perform their tasks through certification as an Authorised Engineering Organisation (AEO), or in the case of equipment maintenance, Authorised Maintenance Organisation (AMO) certification.
- 5.38 The Defence AEO and AMO certification requirements also apply to commercial organisations involved in design, construction and/or maintenance of ADF aircraft and related systems. However, commercial organisations involved with maritime or land materiel are not required to seek or maintain AEO or AMO certification. Instead, DMO's Maritime and Land Systems Divisions must ensure that their commercial service

15 Defence QoN, 9 May 2007.

16 Defence, submission 5, p. 2.

providers are made aware of the technical standards, and that the providers comply with these standards.

- 5.39 The ANAO found that all SPOs within the Aerospace Systems Division, and the Airborne Early Warning and Control organisation have AEO or AMO certification. However, only three out of 19 Electronic and Weapon Systems Division SPOs had AEO certification, and two had provisional certification. Of the 10 Maritime Systems Division SPOs, eight have only provisional certification.
- 5.40 The ANAO commented:
- Given the risks involved, there is a strong case for DMO to increase the priority and assistance to those Divisions to achieve and maintain improved compliance with the Technical Regulatory Framework.¹⁷
- 5.41 The ANAO recommended that Defence increase the priority and assistance to DMO's Maritime Systems Division and Electronic and Weapon Systems Division SPOs to achieve AEO.
- 5.42 Defence agreed, with qualification. Defence stated:
- It is important to note that AEO status alone does not ensure the materiel safety or fitness for purpose of any system. Each of the technical regulators assures themselves through objective evidence that a system is fit for purpose and safe.¹⁸
- 5.43 Defence argued that the integration of SPOs with the QEMS system (outlined above) would assist individual SPOs to gain AEO status.
- 5.44 In April 2006 DMO provided an update, stating that within Maritime Division, six organisations now had AEO status, three had provisional status and two were in progress. Within Land Division, 80 percent of SPOs had accreditation. As a result of a restructure, two new organisations (one SPO and the Overlander Program Office) required new accreditation, which was underway. The Committee is pleased to note DMO's efforts in gaining AEO status for the majority of its SPOs and other units, as recommended by the ANAO.¹⁹
- 5.45 In May 2007 DMO advised that Maritime Systems Division has five organisations with full AEO status. Two SPOs were nearing completion of a re-appraisal and were expected to be at full AEO certification by the end
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17 ANAO Audit Report No. 45, 2004/05, p. 44.

18 ANAO Audit Report No. 45, 2004/05, p. 45.

19 Defence, submission 5, p. 3.

of the month. A further three had provisional status and were progressing towards full AEO certification. In addition, four had sought appraisal by the Director Technical Regulation – Navy and were expected to complete the remediation for full status by late 2007.²⁰

ANAO reviews of individual SPOs

5.46 After reviewing general management issues for the SPOs, the ANAO conducted detailed audits in a number of SPOs. These reviews are examined below.

Tactical Fighter Systems Program Office

5.47 The Tactical Fighter Systems Program Office (TFSPPO) is located within the Aerospace Systems Division, and is responsible for acquisition and logistics support management of the Air Force's tactical fighter fleets and associated equipment. Two main responsibilities of the TFSPPO are:

- management of the \$1.55 billion Hornet Upgrade Project, which aims to ensure that the F/A 18 Hornets remain effective in their roles until withdrawal from service by 2015; and
- management of the acquisition and logistics contract for the supply and in-service of 33 Hawk Model 127 aircraft.

5.48 The ANAO found that the TFSPPO provided an example of better program management and practice. There was a hierarchy of plans linked to key performance indicators, and it had a well-established quality management system and regulatory compliance.

5.49 The ANAO outlined management practices within the TFSPPO and work on its two major projects, the Hornet Upgrade Project and the Hawk radar simulation and emulation.

5.50 The final phase of the Hawk Acquisition Project provides the Hawks with radar emulation and simulation capabilities. The ANAO found that the project schedule for operational capability had slipped from July 2005 to August 2005. Factors contributing to the slippage included a lack of precedent in Hawk aircraft development, and a lack of suitable on-site Defence representation.²¹

20 Defence QoN, 9 May 2007.

21 ANAO Audit Report No. 45, 2004/05, p. 53.

- 5.51 The Committee requested an update on the Hawk Acquisition Project. DMO replied that the radar emulation and simulation capabilities were expected to be added into the aircraft by August 2006, with project closure in January 2007. The Committee has been subsequently advised that full fleet embodiment for both radar simulation and radar emulation was achieved in December 2006.²² The project is substantially complete but will not financially close until two ongoing technical issues are resolved; namely the resolution of eight outstanding System Problem Reports for radar simulation, and the late delivery of the Radar Emulation Threat Loader Programme.²³ While the radar emulation was due for in-service use by July 2006, testing on simulation function had shown that further development would be required, hence the delay until end 2006/early 2007.²⁴
- 5.52 The Committee also questioned why, according to the ANAO, there was a lack of Defence representation on-site at the Hawk Acquisition Project. DMO replied that at the beginning of the project (1997) 18 project staff were posted to the BAE systems site in the United Kingdom. Upon delivery of the first UK built aircraft in 2000 (whereupon production started in Australia), the UK representation was reduced to four. The overseas team was disbanded in 2002, with the plan to fund 'as-needed' travel of Australian based specialists to the UK. Later, Departmental restrictions on overseas travel had further reduced the on-site representation. DMO stated that this had a minor impact on the clarification and resolution of some technical problems.²⁵

Track Manoeuvre Systems Program Office

- 5.53 The Track Manoeuvre Systems Program Office (TMSPO) is part of the DMO's Land Systems Division, and is responsible for the acquisition and logistics support of the Army's tracked armoured fighting vehicles and associated equipment, including:
- 766 M113 Armoured Personnel Carriers – the TMSPO is managing the M113 Upgrade Project which is examined in Audit Report No. 3, 2005-06 (to be examined later in this chapter);
 - 90 Leopard Medium battle tanks – the Army's main armoured capability; and

22 Defence QoN, 9 May 2007.

23 Defence QoN, 9 May 2007.

24 Defence submission 5, p. 5.

25 Defence submission 5, p. 5.

- the acquisition of 59 refurbished Abrams M1A1 Main Battle Tanks, at a cost of \$530 million. These were scheduled to replace the Leopard tanks from 2007.
- 5.54 The Audit Office found that the TMSPO's hierarchy of plans, Key Performance Indicators, quality management and regulatory system were not as well developed as the TFSPO's.²⁶ However, its AEO certification, and ongoing compliance with the Technical Regulatory Framework, provided a level of assurance that the tracked vehicles operate within an appropriate regulatory framework.
- 5.55 The Audit Office found that in recent years, the Army had been unable to maintain the Leopard fleet's 'rate of effort' within target levels. What this means is that because of increasing tank fleet usage, decreasing support funding, and increasing support costs, all reserves of spares and maintenance stock have been consumed. This had reduced Army's tank reserves and spares holdings to minimal levels.²⁷
- 5.56 The ANAO commented that the Leopard and M113 fleets have a complex logistics support chain. In 2003, an internal Defence audit found that only four percent of the vehicles sampled by the audit were fully functional, and only 22 percent of all equipment sampled was fully functional. TMSPO advised the ANAO that this low level of functionality had not prevented equipment usage, as Army managed equipment readiness primarily according to the ability to make equipment serviceable for planned missions.²⁸
- 5.57 The Committee asked Defence to further explain the low levels of readiness for the Leopard tanks. Defence acknowledged that while it had sufficient spare parts for the turret system of the Leopard tank, other high usage, expensive inventory has declined to minimal levels. However, Defence argued, while at the time of the ANAO audit there was an urgent need for replenishment of some items, by April 2006 the inventory levels were sufficient to support the present usage of the tank fleet, and were being replenished as necessary. A number of tanks in the reserve equipment pool also provided backup for serviceable tanks.
- 5.58 Defence also acknowledged that its own 2003 finding of a four percent functionality rate (out of vehicles surveyed) was unacceptable. Following a joint effort between Army and DMO, availability is improving – although there is still room for improvement. Army subsequently

26 ANAO Audit Report No. 45, 2004/05, p. 57.

27 ANAO Audit Report No. 45, 2004/05, p. 54.

28 ANAO Audit Report No. 45, 2004/05, p. 56.

reported that 42 percent of Leopard and M113 tanks were fully functional.²⁹

Over-the-Horizon Radar System Program Office

- 5.59 The Over-the-Horizon Radar System Program Office (OTHRSPPO) is part of the DMO's Electronic and Weapon Systems Division. The Over-the-Horizon Radar network comprises the Jindalee Operational Radar Network (JORN) located at Longreach, Queensland and Laverton, WA, and the Jindalee Facility Alice Springs (JFAS). The role of the OTHRSPPO is to provide for OTHR system acquisition and logistics support management services. At the time of the audit, OTHRSPPO was working towards ISO9001:2000 accreditation in 2005. DMP advised that OTHRSPPO achieved accreditation in December 2005.
- 5.60 The Audit Office found that OTHRSPPO had encountered some problems in implementing the DMO's quality management system (QEMS, outlined above). In particular:
- QEMS needed to be available to all DMO personnel involved with acquiring and sustaining defence materiel. This included contractor staff. However, the majority of contractor personnel did not have access to the Defence Restricted Network, which hosts QEMS. Further, the restricted network was not available in all JORN or JFAS sites;
 - most of OTHRSPPO's engineering plans were developed by private contractors. Because of commercial and other considerations, there was some uncertainty about whether these plans would be placed on the QEMS network; and
 - QEMS does not have document management tools for version control, so was considered unsuitable for use as an ISO quality management system. The OTHRSPPO's quality management system was found to comply with ISO9001:2000 in December 2004.
- 5.61 Defence responded that the ISO9001 quality management system had now been fully integrated with QEMS. The Committee notes that the ANAO tabled a report in January 2006 on JORN.

29 Defence, submission 5, p. 6.

Case study: Fast Frigate Guided Systems Upgrade Project

5.62 In view of the significant role that the SPOs play in managing major capital equipment acquisition projects, the Audit Office conducted a case study of project management for the \$1.448 billion Fast Frigate Guided Systems Upgrade Project.

Background

5.63 The Fast Frigate Guided Systems Upgrade Project seeks to regain the original relative capability of six FFGs, and to ensure they remain effective and supportable through to the end of their life in 2013-2021. The project includes:

- improvements to the FFG's self defence and offensive capabilities;
- modifications to improve equipment reliability and maintenance;
- improvements to crew living quarters;
- a Warfare Systems Support Centre;
- three Operator Trainers and a Team Trainer; and
- logistics support.

Project progress

5.64 The Audit Office found that FFGSPO records indicated extensive schedule slippage. By July 2004, the project was almost two years behind the original delivery schedule. At the time of the audit (March 2005), delivery of the first upgraded ship was not expected until August 2005.

5.65 The Project began in 1994 when Defence sought industry participation in the FFG Upgrade Project through a request for expressions of interest. A contract with ADI was signed in June 1999. By December 2001, the schedule had slipped to such an extent that Senior Defence Committees considered a potential reduction in the numbers of FFGs to be upgraded, as well as the option of the Program's total cancellation.³⁰

5.66 The Committee sought an update on the FFG project at its hearing in February 2006. DMO advised that the first ship to be upgraded, the HMAS *Sydney*, was undertaking a range of trials at sea, including testing the combat system, Mark 92 fire control system, radars, the guided missile

launcher system, and a number of upgraded electronic systems. DMO expected the trials to conclude by April 2006.

5.67 The contract stipulated that the upgrades on the second ship would not proceed until the first upgrade had been delivered and accepted by the DMO. However, DMO advised that they were working with the contractor (ADI) to begin some aspects of upgrading to the next ship (HMAS *Melbourne*).³¹

5.68 At the hearing, Defence argued that slippage was also determined by the performance of the contractor:

I think one has to differentiate between the Commonwealth management of the activities, our recording of documentation, our linking of payments clearly to activities, to value achieved and to milestones achieved, and the contractor's performance against the contract...actual delivery of the capability does depend on the contractor's ability to do the engineering, to do the trials, to be able to demonstrate the outcomes.³²

Role of the SPO

5.69 The FFGSPO is responsible for delivering and sustaining the materiel capability of the FFG class for whole of life. For the Upgrade project, this means the FFGSPO is responsible for directing and controlling product delivery in the Acquisition Phase of the project, including:

- defining and managing contractor performance;
- ensuring consistency with performance specifications;
- coherence with planning and other programs; and
- conformance with corporate, technical, safety and specialist standards.³³

5.70 At April 2006 there were 60 personnel working on the FFGSPO Upgrade Project, with a further 12 positions undergoing recruitment.³⁴

31 Rear Admiral Ruting, Defence Materiel Organisation, *PROOF Transcript of Evidence* 9 February 2006, p. 15.

32 Rear Admiral Ruting, Defence Materiel Organisation, *PROOF Transcript of Evidence* 9 February 2006, pp. 3-4.

33 Defence, submission 5, p. 7.

34 Defence, submission 5, p. 7.

Milestone payments

- 5.71 By January 2005, the approved budget for the FFG Upgrade Project was \$1448.32 million. At February 2005, around one-third of this budget remained to be spent. The contract consists of 71 milestone payments. The ANAO found that the milestone payments were not necessarily linked to the actual or budgeted cost of work performed at the time of the nominated milestone. Rather, they were based on projected prices over the period of the contract, which were agreed during contract negotiations in 1999.³⁵
- 5.72 The ANAO recommended that for future major equipment acquisition contracts, milestone payments are, where appropriate, aligned to the successful completion of mandated system reviews and tests and evaluations; and that full payments for milestones only be made when all review issues for previous milestone payments are satisfactorily resolved.
- 5.73 The Committee questioned whether any milestone payments made after the ANAO Audit had taken account of the above recommendation. Defence responded that while three milestone payments had been made since May 2005, the ANAO's recommendation was taken to apply to future contracts only. While the Commonwealth had an entitlement to withhold some or all of the payments, until previous critical milestones were achieved, it chose not to exercise its discretion on these occasions. Defence stated:

In each case the Terms and Conditions of the Contract were observed and the Project Authority elected to exercise its discretion to make these payments. This was after receipt of the Prime Contractor's Supplies Acceptance Certificate and certification that the relevant Milestones and Milestone Precursors had been achieved.³⁶

Financial management framework

- 5.74 As part of its audit, the ANAO requested that the FFGSPO assemble the financial records for payments made under the project. The ANAO found that prior to 2003, on 22 occasions, the Defence claim for payment sheets were not signed by any or both of the approving and certifying officers. These claims totalled \$76.9 million. FFGSPO also paid \$11.75 million based on unsigned invoices from the Contractor.³⁷

35 ANAO Audit Report No. 45, 2004-05, p. 85.

36 Defence, submission 5, p. 7.

37 ANAO Audit Report No. 45, 2004/05, p. 87.

5.75 The ANAO noted improved practices and procedures since 2003. There is now a formal signoff process to approve contractor payments. However, the ANAO stated:

for 1999 to mid-2003, [FFGSPO records] did not provide a basis for orderly, efficient and accountable measurement of the use of Defence resources.³⁸

5.76 The Committee asked why record-keeping and payment approval was so haphazard prior to 2003, and what had changed to ensure proper financial management. Defence replied that numerous factors had contributed to the problems identified by the ANAO, including:

- restructuring within Defence which resulted in reductions of skilled and experienced group personnel;
- a lack of appropriately skilled/professional FFGSPO business staff, coupled with challenges arising from the office's move from Canberra to Sydney;
- the Prime Contractor's record deficiencies; and
- less than effective correspondence management and filing processes.³⁹

5.77 The Committee asked what had been done to strengthen financial management practices as a result of the audit report. DMO replied that it had brought in external accountants to assist in developing accounting practices that met the Australian Equivalents to International Accounting Standards. The external consultants had reviewed payment regimes and revised instruction procedures. These changes were being implemented in the FFGSPO, with the intention to rollout changes to other SPOs within the Maritime Systems Division. DMO told the Committee that the Aerospace Division was also looking at the FFG's financial changes.⁴⁰ In addition, external ISO 9000 accreditors review the SPO's processes, including financial systems, every six months.

Committee comment

5.78 Many of the issues highlighted in this audit report reflect the wider financial and project management problems in Defence, which were subsequently the subject of a more comprehensive Committee inquiry (*Report 411*, tabled August 2008). These include:

38 ANAO Audit Report No. 45, 2004/05, p. 88.

39 Defence, submission 5, p. 8.

40 Rear Admiral Ruting, DMO, *PROOF Transcript of Evidence*, 9 February 2006, p. 9.

- projects running over-time and over-budget, often due to poor initial scoping and project planning;
- poor record-keeping;
- frequent staff rotation resulting in loss of corporate knowledge;
- information systems not able to cope with the reporting required, also staff not being given adequate training on the information systems; and
- different levels of management and financial skills throughout the organisation – some System Program Offices are performing better than others.

Audit Report No. 3, 2005-06 – Management of the M113 Armoured Personnel Carrier Upgrade Project

Background

- 5.79 The M113 is a lightly armoured aluminium bodied, fully tracked vehicle available in a range of different variants. It was introduced into service in Australia in the mid 1960s with a planned end life of 1995. There are 766 M113A1 vehicles in the Australian Army fleet, with 520 in-service at the time of the audit. The M113 has a number of identified operational deficiencies and currently remains in its original mid 1960s M113A1 standard.
- 5.80 In 1992, Defence initiated a minimum upgrade of the M113 fleet to improve firepower, night vision, fighting, habitability and survivability capabilities. The project was to be undertaken in two stages. Phase 1 would upgrade 537 vehicles to an A2 standard (minimum upgrade with new components such as spall curtains, suspension, engine cooling turret and machine gun). Vehicles were to be delivered from 1996 to 1998 at an approved cost of \$39.9 million. Phase 2 would upgrade the remaining vehicles for final delivery by late 2000.
- 5.81 Phase 1 was to be delivered under six separate contracts. A prime contract for Phase 1(a) was signed with Tenix in May 1997.
- 5.82 In late 1997, Tenix (the Contractor) provided Defence with an unsolicited proposal to combine Phases 1 and 2 and to upgrade 360 vehicles to an M113AS3 standard (major upgrade to an A2 standard plus power pack and drive train) with expected savings of \$30 million to Defence.

- 5.83 Defence subsequently decided to sole source the combined upgrade to the Contractor and Phase 1(a) of the prime contract was suspended in June 1999.
- 5.84 A Major Upgrade Contract was signed in July 2002 for the supply of 350 vehicles at an AS3 and AS4 standard (major upgrade to AS3 standard with stretch technology) at a cost of \$388 million. These vehicles would be substantially different to what was originally envisaged when the M113 Upgrade Project commenced in the early 1990s.⁴¹

Audit objectives

- 5.85 The objective of the audit was to provide independent assurance of the effectiveness of the management of the M113 fleet upgrade for the Australian Defence Force (ADF). The audit sought to identify the initial capability requirements and approval process, analyse the contract negotiation process, and examine the management of the project and contracts.
- 5.86 The audit focused upon the two major stages of the project: the minimum vehicle upgrade commenced in 1992 and a major upgrade of the fleet, which commenced in 2002 following a period of contract suspension from 1999 to 2002.
- 5.87 Audit fieldwork was conducted between August 2004 and February 2005. Papers summarising the audit findings were presented to Defence from March to May 2005, with the report tabled in July 2005.

Audit conclusion

- 5.88 The ANAO found that the Project had undergone extensive scope changes and chronic schedule delays since its inception.
- 5.89 The Minimum Upgrade Phase of the Project suffered from poor project management practices, ineffective project planning, inadequately defined project objectives, and technical problems with the T50 turret. Combined with an inability to successfully integrate the components of the vehicle, this resulted in a failure to deliver capability to the ADF.

41 ANAO Audit Report No. 3, 2005/06, *Management of the M113 Armoured Personnel Carrier Upgrade Project*, Commonwealth of Australia, July 2005, p. 28.

- 5.90 The ANAO found that Defence was unable to successfully manage changes in requirements, leading to a three year delay between approval to combine Phases 1 and 2 of the original Project in June 1999, and entering into the contract for the Major Upgrade Project in 2002.
- 5.91 The ANAO considered that the Major Upgrade Contract executed in July 2002 provided an improved framework for Defence to advance the Project. However, at the time of the audit, the ADF was yet to receive any upgraded vehicles and there was some doubt as to whether the upgraded vehicles would meet their in-service date of late 2006. The last vehicle is to be delivered in late 2010 and has a planned end life of 2020.
- 5.92 The ANAO noted that the Contractor was fast tracking production, meaning that they had commenced producing vehicles at their own risk before the vehicles had passed Defence formal testing. The ANAO considered that this approach involves a high level of risk. Notwithstanding the Contractor's liability for this risk, the ANAO believed the situation would require close management by both the Contractor and Defence.

Recommendations

- 5.93 The ANAO made three recommendations to Defence. The agency agreed with all recommendations.

Table 5.2 List of recommendations, ANAO Audit Report No. 3, 2005-06

1.	That the Defence Materiel Organisation put in place control mechanisms to ensure that changes in scope are approved at the appropriate level. Defence response: Agreed.
2.	That the Defence Materiel Organisation recover against deliverables, the outstanding amount of the May 1997 mobilisation payment remaining from the Phase 1(a) M113 Upgrade Contract at the earliest opportunity. Defence response: Agreed.
3.	That the Defence Materiel Organisation review contracting policy and its application of the collection of liquidated damages, to be received either by way of financial or agreed compensation, to ensure that they are collected in a timely manner. Defence response: Agreed.

Minimum Upgrade Project

- 5.94 Phase 1 of this Project included six sub phases, which were to be managed through separate contracts (Phases 1(a) to 1(f)) with Phase 1(a) considered the prime contract as it included the highest cost component of the Project and provided for the installation of all other components. The ANAO

found that Defence's Equipment Acquisition Strategy did not identify or mitigate the risks associated with a number of separate contracts.

- 5.95 When questioned about these risks, DMO responded that with the exception of the turret enhancements, the Phase 1 upgrade elements were stand alone, mostly proven systems and that the integration task was assessed as low complexity and low risk. DMO argued that the benefits of greater choice and lower cost from the direct, competitive purchase of these elements exceeded the potential costs of any subsequent integration problems.
- 5.96 DMO considers that its judgement on this approach was vindicated when many of the Phase 1 upgrade elements were retained and installed into the present prototype upgrade vehicle with little difficulty.⁴²
- 5.97 However, DMO also advised that in the event of total failure to integrate the systems, the project could have been cancelled, resulting in costs of at least \$22 million, which was the amount that had been incurred to that time.
- 5.98 The audit report highlighted the numerous changes to the scope of this Project. Initially to be undertaken in two stages, the scope of Phase 1 was reduced from 537 vehicles to 364 vehicles in 1995 due to cost increases.
- 5.99 Phase 2 was to involve modifying the remaining vehicles to the same standard as the Phase 1 vehicles. However, in October 1997, Defence commenced discussions on upgrading 347 vehicles to an A3 standard, rather than the A2 standard originally envisaged. Defence also proposed that armour protection for the turrets, a climate control system, an inertial navigation system and two simulators be procured.
- 5.100 The project scope altered again following an unsolicited proposal from the Prime Contractor (Tenix) in November 1997, whereby the Contractor would procure and install Phase 2 upgrade components concurrently with the Phase 1 upgrade. It was intended that this approach would reduce duplication, maximise the use of existing facilities, meet the in-service dates of the vehicles some two to three years earlier than the current Phase 2 schedule, and realise savings of approximately \$30 million.⁴³
- 5.101 The ANAO noted that the Contractor had also, in December 1997, agreed a Commercial Support Program Contract with Defence to manage the specialist facility for the repair and overhaul of Army vehicles (including M113 vehicles).
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42 Defence submission 5, p. 9.

43 ANAO Audit Report No. 6, 2005/06, p. 34-35.

- 5.102 This gave the Contractor access to the purpose built Defence facilities at Bandiana. In exchange for this, the contractor provided 'favourable' labour rates. Defence subsequently decided that Tenix's proposal was the best value for money.⁴⁴ This was noted by the Minister for Defence in May 1998 and Cabinet gave approval for Phase 2 in early 1999 at a cost of \$250 million.
- 5.103 The Committee queried Defence as to why it considered changing the scope of the Project so soon after contracts had been executed for the minimum upgrade. Defence replied that the minimum upgrade had been planned as an interim improvement to the vehicles pending development and approval of the capability requirement and a business case for a major upgrade. The unsolicited proposal from the Contractor brought forward consideration of the major upgrade.⁴⁵
- 5.104 As part of the original Phase 1(a) contract, the Contractor was required to deliver prototype vehicles to Defence for trial purposes. All Phase 1 components were initially to be subject to test and evaluation. However the four prototype vehicles that were delivered did not include all Phase 1 components. There was no accepted delivery of prototype sights (an integral component of the turret). Continuing problems with the sights were identified during trials conducted in August and September 1998 and three redesigned turrets were provided in August and September 1999.
- 5.105 When asked why Defence did not insist that the technical issues surrounding the turret be resolved and that a prototype that included all Phase 1 components be provided before the project proceeded, DMO replied that Defence believed at the time that the various elements could be considered independently of each other. Further, a Defence review of the turret development concluded that the Contractor remained able to develop a satisfactory turret.
- However, this was deferred when work was halted in favour of the proposal to bring forward and merge the Phase 1 and Phase 2 upgrades.⁴⁶
- 5.106 The ANAO notes that at the time of the audit the Phase 1(a) component of the contract remained largely incomplete.⁴⁷

44 ANAO Audit Report No. 6, 2005/06, p.35.

45 Defence submission 5, p. 9.

46 Defence submission 5, p. 10.

47 ANAO Audit Report No. 6, 2005/06, p.15.

- 5.107 The ANAO found that the Minimum Upgrade Phase suffered from poor project management practices, ineffective project planning and inadequately defined project objectives. The Committee questioned Defence about what action it had taken to improve project planning in subsequent projects. DMO replied that a number of reforms have been implemented within Defence, including:
- establishing a single point of accountability, the Head of Capability Development;
 - establishing a mandatory two-pass project approval system;
 - establishing the DMO as a prescribed agency to give it a separate business-like identity;
 - increasing staff professionalism through project management training and accreditation by the Australian Institute of Project Management;
 - improving project management systems and processes, including standardised methodologies and reporting tools; and
 - establishing Materiel Assurance Boards to advise the Chief Executive Officer of DMO.
- 5.108 The Committee notes that these reforms reflect the outcomes of the Defence Procurement Review 2003 (the Kinnaird Review). Defence's implementation of these reforms was one component of the Committee's broader inquiry.

Contract suspension and interim phase

- 5.109 Following the decision to combine Phases 1 and 2 and sole source to the Contractor, the existing Contract was suspended in June 1999 and it was decided that a series of Contract Change Proposals (CCP) should be developed. The ANAO described this period as being characterised by an inability of Defence to successfully manage changes in requirements.⁴⁸
- 5.110 The ANAO also found that Defence did not follow its normal processes during this period:
- rather than follow normal procedures of developing a detailed operating requirement, statement of requirement and top level

specification, Defence considered these were unnecessary as the Contractor would be part of an integrated product team; and

- CCP13 was a joint exploration between Defence and the Contractor and did not include a formal request for CCP, evaluation criteria, or an evaluation report. Further, concurrence was not sought from either the Minister for Defence or the Minister for Finance and Administration for a real cost increase of \$9.71 million. Defence is required to obtain ministerial concurrence where there is a real variation of more than \$8 million and less than \$20 million.⁴⁹ Defence disagrees with the ANAO that CCP13 constituted a real variation and therefore argues it did not require concurrence.

- 5.111 The ANAO recommended that Defence put in place control mechanisms to ensure changes in scope are approved at the appropriate level. Defence agreed and commented that these mechanisms are already in place.⁵⁰
- 5.112 The Committee notes that that implementation of the Defence Procurement Review (the Kinnaird Review) should remediate this situation in future projects.
- 5.113 Three CCPs were developed, two of which were rejected by the Defence Evaluation Board for a number of reasons.⁵¹ The Contractor subsequently claimed postponement costs in 2000 and \$1.28 million was paid by Defence.
- 5.114 Defence redefined the scope of the M113 Upgrade Project in May 2000, when it agreed that the life of the M113 fleet would be around 2020. A mixed fleet would be necessary as only approximately 160 vehicles could be upgraded to an AS3 standard within the cost cap. The balance of approximately 190 vehicles would be upgraded to the A2 standard.
- 5.115 The ANAO found that Defence had decided 'that there was no reason to believe that there were better value for money replacement vehicle options and that upgrading the M113s was feasible as current hull integrity issues were manageable'.⁵² However, there were a number of issues:
- the M113s would no longer be amphibious due to increased weight;
 - army's existing eight tonne Mack trucks would no longer be able to transport the upgraded M113s; and

49 ANAO Audit Report No. 6, 2005/06, p.47.

50 ANAO Audit Report No. 6, 2005/06, p. 48.

51 ANAO Audit Report No. 6, 2005/06, p. 40-41.

52 ANAO Audit Report No. 6, 2005/06, p.44.

- savings that were to accrue to the Australian Government from the sole source option may not eventuate due to changes to the project cost and acquisition strategy.
- 5.116 The Committee queried whether, in light of the cost of the project and the delays experienced to this point as well as the expected lifespan of these 1960s vehicles, continuation of the project represented value for money. In its response to Questions on Notice, DMO advised that the M113 vehicles represent significant capability for the Army and that the project was endorsed as value for money by the Defence Capability Committee on 15 May 2000, in the Defence White Paper 2000, and again by the Government's second pass project approval in June 2002.⁵³

Phase 1 costs

- 5.117 The ANAO calculated that \$9.70 million had been spent at the time the Phase 1 contract was suspended. Of this, \$5.60 million had been spent upon contract deliverables while \$4.21 million was paid as an advance payment. The Contractor was then paid \$18.30 million, including \$1.28 million postponement costs, to undertake a number of activities towards developing an acceptable combined upgrade proposal.
- 5.118 Only \$970,000 of the \$4.21 million advance payment made in 1997 had been offset against deliverables with the remaining amount of \$3.24 million a debt owing to Defence at the time of the audit.
- 5.119 While this debt has now been collected,⁵⁴ the Committee is concerned about the length of time allowed to elapse prior to its collection and that it was recovered only following a specific recommendation by the ANAO.

Management of the Major Upgrade Contract

- 5.120 The M113 Major Upgrade Project was approved in 2002 at a cost of \$552 million. The contract between Defence and Tenix provided for the supply of 350 upgraded M113 vehicles in seven variants. 259 vehicles were to be provided to an AS4 standard.

53 Defence submission 5, p.10.

54 Mr Colin Sharp, Defence Materiel Organisation, *PROOF Transcript of Evidence*, 9 February 2006, p. 17.

- 5.121 The Committee asked Defence why it had sole sourced the major upgrade to the same Contractor, when it had been unable to complete the Phase 1(a) Prime Contract signed in 1997. DMO replied that it believed, notwithstanding the technical problems encountered in development of the turret improvements, that the Contractor would deliver a satisfactory turret and successfully install the remaining Phase 1 upgrade elements. It also justified its decision on the following basis:
- the Contractor had previously established its cost competitiveness for other contracts;
 - a similar offer had been provided by another company shortly before acceptance of Tenix's unsolicited proposal, which was rejected because of its higher price;
 - Defence strongly preferred an Australian contractor;
 - there would be low labour rates as a result of Tenix's access to Commonwealth facilities at Bandana;
 - another contractor would "complicate the interaction between support of the existing vehicles and any upgrade program"; and
 - termination costs for the Phase 1 contract would be payable.⁵⁵
- 5.122 In response to a further question, DMO conceded that in hindsight an open tender would have provided a more robustly defensible contractor selection and possibly a stronger basis for Defence in subsequent contract negotiation.⁵⁶
- 5.123 The project involved three stages: demonstration vehicles (stage 1), initial production vehicles (stage 2) and production vehicles (stage 3).
- 5.124 Stage 1 required the Contractor to build two demonstration vehicles: an Armoured Personnel Carrier and an Armoured Logistics Vehicle. In early 2004, Defence advised the Contractor it could proceed to stage 2, which involves development of fourteen production vehicles for further testing and evaluation.
- 5.125 The ANAO found that despite being given permission to proceed, two concerns were identified at stage 1 and remained outstanding at the time of the audit, representing an ongoing risk to schedule and performance. These issues were 'heat in relation to the effect on both the vehicle systems and its occupants whilst operating in the climatic conditions that can be

55 Defence submission 5, p. 11.

56 Defence submission 5, p. 11.

expected in the northern regions of Australia, and the provision of the required integrated logistic support data'.⁵⁷

- 5.126 The Committee asked Defence why it allowed the Contractor to proceed to stage 2 before outstanding issues associated with the prototype vehicles were resolved. In its response, DMO outlined the exit points that were included in the contract, whereby the contract provided for termination at the end of stage 1 only in the event that major problems were identified that would prevent compliance with the vehicle specification and that the Contractor could not demonstrably resolve.
- 5.127 Defence's legal advice at the time concluded that as there was evidence that the problems would be resolved, Defence had no basis to exit the contract at that point.⁵⁸
- 5.128 While the Committee accepts that Defence may not have been able to exit the contract at this point, it is not apparent that Defence considered delaying implementation of stage 2 until the technical issues were satisfactorily resolved.
- 5.129 DMO has provided an update on the current status of these outstanding issues. Improvements to prevent engine overheating have been developed and subject to extensive testing with no recurrence of engine overheating. DMO considers it is unlikely that further engine overheating will occur.⁵⁹
- 5.130 DMO also advised that delivery of integrated logistic support data was delayed by the failure of the main subcontractor to provide the data to the Contractor. The Contractor also experienced difficulties recruiting sufficient staff, which contributed to delays. Delivery of the integrated logistic support data continues to be behind schedule and is receiving DMO's close attention.
- 5.131 Defence has indicated that these issues must be fully resolved before approval for stage 3, which is full production, will be given. Acceptance testing will also be conducted prior to acceptance by Defence.
- 5.132 The Committee questioned the implications for Defence capability that have arisen from the numerous delays in this project. DMO replied that it has been necessary for the Army to retain the M113A1 family of vehicles in service for a longer period and to manage known capability deficiencies in the areas of protection, firepower, mobility and habitability.

57 ANAO Audit Report No. 6, 2005/06, p. 53

58 Defence submission 5, p. 12.

59 Defence submission 5, p. 12.

- 5.133 The ANAO noted that the United States upgraded its fleet of M113A1 vehicles in the 1980s to AS3 standard.⁶⁰ The Australian M113A1 fleet had an expected life end of 1995 and in 2005 remained in its original condition. When questioned about whether this upgrade ultimately provides the best value for money, Defence responded that the present upgrade offers the best value for money as upgraded M113s are highly capable and cost effective vehicles that continue to serve around the world. Defence had examined the experience of other countries such as Canada, Germany and Denmark in upgrading vehicles as well as new vehicle options in reaching this conclusion.⁶¹
- 5.134 Defence considers that the project will deliver “one of the best protected and capable light armoured fighting vehicles in the world”.⁶²
- 5.135 The ANAO noted that the provision of late or inadequate Government furnished equipment (GFE) is one contributing factor to Defence induced schedule delays. Schedule slippage may leave Defence open to postponement claims from the Contractor. Defence has advised that it is conducting detailed planning of stocks levels and supply lead times and is stockpiling GFE to provide a buffer stock for planned production demand. Where GFE is being supplied through the overhaul of M113A1 components by Tenix via the vehicle support contract at Bandiana, Defence has included terms in the upgrade contract to ensure Tenix remains liable for timely supply to support vehicle production.

Transportation

- 5.136 The upgraded vehicles are to be transportable by road within Australia without special permits, by Australian railways within standard loading dimensions and preferably without preparation, on specified watercraft and as an internal load in the C-130 (Hercules) aircraft.
- 5.137 The ANAO noted a number of weight issues when carrying the upgraded vehicles on the current military transportation vehicles. It also identified that there may be a reduction in lift capacity as the number of vehicles to be procured by Project Overlander, a multi-phased project to provide the ADF with field vehicles and trailers to meet its mobility requirements, will

60 ANAO Audit Report No. 6, 2005/06, p. 23.

61 Defence submission 5, p. 13.

62 Defence submission 5, p. 13.

be significantly less than the number of vehicles originally used to lift the M113A1 vehicles.

- 5.138 Defence has advised that Project Overlander will acquire vehicles that are capable of transporting the M113AS4 Armoured Personnel Carrier in its transport configuration, that is, without crew and passengers at a weight of about 16 tonne. In the interim period, the upgraded M113s can be transported on Defence semi-trailers.
- 5.139 While Project Overlander is expected to acquire fewer vehicles than are presently available to transport M113s, Defence also intends to reduce the number of M113s issued to Army units. Army units are to be re-equipped with ASLAV and Bushmaster vehicles, and reallocated equipment as per the Hardened and Networked Army initiative.⁶³

Production

- 5.140 While the in-service date remained November 2006 in early 2005, the ANAO commented that the production of some variants would slip up to six months. For example, the excessive engine heat was not yet resolved. Due to the delay, the Contractor advised Defence that it would fast track some elements of initial production vehicle testing in order to meet the scheduled in-service date. The Contractor would be relying upon its own Reliability Qualification Test to proceed to full production before it received Defence sign off. The ANAO acknowledged that while the risk sat largely with the Contractor, it was still a high risk option for Defence.
- 5.141 Defence advised that the status and results of testing of the upgraded M113, as at April 2006, are:
- endurance, 100% complete, no major problems;
 - turret performance, 100% complete, no major problems;
 - mobility, performance and physical characteristics, 99% complete, no major problems;
 - maintainability, 90% complete, due 20 March 2006, no major problems;
 - electromagnetic and electrical performance, 98% complete, due 24 February 2006, no major problems; and

63 Defence submission 5, p. 14.

- reliability qualification test, 28% complete, due May 2006, hand brake failure being investigated.
- 5.142 Defence provided the Committee an update of the status in May 2007:
- maintainability, 95% complete, due July 2007, no major problems;
 - electromagnetic and electrical performance, 200% complete, no major problems;
 - reliability qualification test, 28% complete, stopped on 17 March 2006, due May 2007.⁶⁴

Financial management

Payment of Goods and Services Tax invoices

- 5.143 The ANAO noted that invoices for foreign currency received prior to mid 2004 appear to be invalid and that in order for Defence to claim GST credits, it must have a valid tax invoice to support each claim for purchases. There are some 84 invoices from January 2002 to June 2004 that may be invalid.
- 5.144 It further noted that the retail sell rate of the Australian Financial Review rather than the wholesale rate quoted by the Reserve Bank of Australia was used by the Contractor, resulting in a difference of \$15,000 through the use of this rate over seven months.
- 5.145 The Committee asked Defence whether it had changed the way that it processed invoices in response to the ANAO comments. Defence responded that it maintains that the spot selling rate for the foreign exchange component is an appropriate method and is in accordance with Goods and Services Tax Ruling 2001/2 dated 2 February 2001.

Liquidated damages

- 5.146 Defence is entitled to recover liquidated damages of 0.1 percent of the milestone value of the supplies in default each week after the milestone due date (following a grace period not exceeding 90 days) if the Contractor fails to deliver. Defence may alternatively accept agreed compensation in lieu of recovering liquidated damages.

64 Defence QoN, 9 May 2007.

- 5.147 The ANAO noted two areas of delay identified by Defence: integrated logistic support data and plans and the production of initial production vehicles, with an amount of damages of \$23,255. While Defence advised the Contractor in September 2004 of its intention to seek liquidated damages, no claim had been made at the time of the audit.
- 5.148 The Audit Report's third recommendation was that DMO review contracting policy and the collection of liquidated damages to ensure that are collected in a timely manner. Defence agreed with this recommendation, noting that this is comprehensively addressed in the ASDEFCON Suite of Contracting Templates, Defence Procurement Policy Manual, Defence Procurement Policy Instructions, relevant DMO Financial Instructions and Chief Executive Instructions.
- 5.149 The Committee is pleased to note that the damages referred to by the ANAO have now been collected.⁶⁵

Committee comment

- 5.150 The M113 upgrade project clearly illustrates many of the systemic problems in Defence project management that have been identified by the ANAO and other reviewers. The project has been characterised by chronic schedule delays and numerous changes in scope. The result is a situation whereby, 16 years after a minimum upgrade was initiated, at the time of the audit these vehicles remained in the same A1 standard as when they were introduced into service in the 1960s.
- 5.151 The Committee notes the three year delay between suspending the Minimum Upgrade Project and signing the contract for the Major Upgrade Project. It also notes the ANAO findings that, at the time of the audit, the work required by the original Phase 1(a) contract, executed in 1997, remained largely incomplete despite the project being sole sourced to the same Contractor.
- 5.152 The Committee considers that this project highlights serious failures in Defence project management that must be rectified through the reform process currently in train. The Committee is pleased to acknowledge that Defence has adopted a systemic approach to these matters and that progress has already been made.

65 Mr Colin Sharp, Defence Materiel Organisation, *PROOF Transcript of Evidence*, 9 February 2006, p. 17.

- 5.153 The Committee remains concerned about the cumulative impact upon ADF capability that has arisen from poor project management practices. It is clear that these practices have had an overall effect. More than ten years after the original planned end life of the M113 armoured personnel carrier, the ADF had yet to receive any upgraded vehicles and continued to manage known capability deficiencies.
- 5.154 During the hearing on 9 February 2006, Defence commented that many of its projects in difficult areas, such as the M113 upgrade, came from the 1990s and that “a lot of improvements have been made since then”.⁶⁶ The Committee examined the reform process further through its broader inquiry which reported in August 2008 (*JCPAA Report 411*).

⁶⁶ Dr Stephen Gumley, Defence Materiel Organisation, *PROOF Transcript of Evidence*, 9 February 2006, p. 2.

