The Auditor-General
Audit Report No.10 2006–07
Performance Audit

Management of the Standard Defence Supply System Remediation Programme

Department of Defence

Defence Materiel Organisation

Australian National Audit Office

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Australian National
Audit Office

Canberra ACT
31 October 2006

Dear Mr President
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit in the Department of Defence and Defence Materiel Organisation in accordance with the authority contained in the *Auditor-General Act 1997*. I present the report of this audit and the accompanying brochure to the Parliament. The report is titled *Management of the Standard Defence Supply System Remediation Programme.*

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—http://www.anao.gov.au.

Yours sincerely

Ian McPhee
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

The Auditor-General is head of the Australian National Audit Office. The ANAO assists the Auditor-General to carry out his duties under the *Auditor-General Act 1997* to undertake performance audits and financial statement audits of Commonwealth public sector bodies and to provide independent reports and advice for the Parliament, the Government and the community. The aim is to improve Commonwealth public sector administration and accountability.

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Abbreviations

ADF	Australian Defence Force
ANAO	Australian National Audit Office
AIMS	Advanced Inventory Management System
CENCAT	Central Catalogue of Inventory
CVS	Cargo Visibility System
DMO	Defence Materiel Organisation
FFG	Adelaide Class Guided Missile Frigate
NAVALLOW	Naval Allowance Management System
HMAS	Her Majesty's Australian Ship
JCPAA	Joint Committee of Public Accounts and Audit
OQE	Objective Quality Evidence
PMMM	Project Management Methodology Minors
ROMAN	Resource and Output Management and Accounting Network
RAAF	Royal Australian Air Force
RAN	Royal Australian Navy
RFP	Request for Proposal
RFT	Request for Tender
SDSS	Standard Defence Supply System
TBA	To Be Advised
Y2K	Year 2000

Summary and Recommendations

Summary

Background

1. The Standard Defence Supply System (SDSS) is the key logistics management system for the Australian Defence Force (ADF) and has been in operation since the early 1990s. SDSS was implemented in 1993 for Army, 1994 for the Royal Australian Navy (RAN), and in 1995 for the Royal Australian Air Force (RAAF). The system underwent a major upgrade starting November 2000, which resulted with the release in July 2003 of SDSS *version 4*. Following that upgrade, the Defence Materiel Organisation (DMO) initiated a Get Well Programme, and subsequently, other related programmes to remediate outstanding issues relating to system performance.

2. This report reviewed the effectiveness of the remediated SDSS system in supporting ADF capability. This involved examining the SDSS Get Well Programme, which was an intermediate step in improving the functionality of the Defence Supply System, and some of the other supporting initiatives that serve to enhance, and maintain the effectiveness of the ADF supply chain.

3. SDSS is an inventory management system that controls those items of supply that support the ADF and its operational capability. The system is used to manage over 1.6 million items in General Stores Inventory, worth some $1.29 billion. In association with other supporting systems, SDSS manages transactions to support some $2.72 billion of Repairable Items.

4. Prior to the rollout of the initial SDSS inventory management system in the early 1990s, Defence lacked a joint ADF logistics business management process.[1] The core software is MIMS (provided by MINCOM Ltd) and is complemented by interfaced applications that include the Defence-built Central Catalogue (CENCAT, the North Atlantic Treaty Organisation system for Cataloguing and Codification), Navy Allowance Management (NAVALLOW), Cargo Visibility System (CVS) and commercial systems, including: Advanced Inventory Management System (AIMS), which is inventory optimisation software and SLIMS/AMPS (shipboard inventory management systems). As an integrated system, SDSS manages: identification, procurement, requirements determination, warehousing, requisitioning and demand fulfilment, entitlement management and cargo tracking.

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[1] The JCPAA Report 317 *'A champagne appetite but only a beer income-Defence's Supply Systems Redevelopment Project'*, of 1992 covered the development of the original SDSS product.

5. SDSS functionality is required to enable the management of Defence's end to end supply chain from supplier through Defence warehousing down to unit level holdings within the three Service's logistics operations. The system supports all operational platforms and the units that use them in the area of operations.

SDSS Get Well Programme

6. Throughout its life, SDSS has been progressively modified and updated. In July 2003 a Project (SDSS Upgrade Project) was completed that sought to upgrade SDSS to *version 4* with the intent of delivering a Standard Supply Chain System across the whole Defence user base, introducing tighter controls over data integrity and transaction processing, and improved finance functions.

7. The ANAO tabled a report into the Management of the SDSS Upgrade in August 2004 and found that the Project did not deliver value for money to Defence. The report also noted that the Project exhibited extensive scope reduction and, based on scheduled final deliverables being accepted in June 2004, operated with an extended schedule in excess of 200 per cent of the planned schedule. The audit concluded that the Project had failed to materially deliver many of the outcomes for which it was funded.

8. In 2004, Defence identified several key areas that needed to be addressed to improve the performance of SDSS. The key areas addressed by the Get Well Programme included: system performance, addressing areas such as client response times; batch job execution times; printing delays and system stability currently affecting productivity and user confidence in SDSS; business processes, to improve user compliance with business procedures against which all parties execute their business within the Defence Single Supply Chain; data quality, to address the legacy of non-compliance with business procedures, and thus reduce the amount of data within the system of questionable integrity; financial capability gaps, with specific attention to the sub-optimal capability for SDSS to report financial data to ROMAN[2] (Defences' General Ledger); and bug fixes, which were to be addressed as part of the daily operation of the support arrangements for SDSS to address system deficiencies.

9. The DMO advised the ANAO that, following the Get Well Programme, further improvement of SDSS has been focussed in two areas: remediating

[2] Resource and Output Management and Accounting Network

identified shortfalls in current performance; and continuing the future development path and introducing greater functionality, through a major Project, Joint Project 2077,[3] the main component of which is expected to be delivered in 2008.

10. To complement the SDSS Get Well Programme, Defence and the DMO are running parallel initiatives, which aim to improve the overall SDSS performance. The majority of these changes come under the Department's Remediation Plans and include work that addresses: stores and equipment that are Not In Catalogue; Stores Accuracy; General Stores Inventory Pricing and Accounting; Supply Customer Accounts; and Stock Holding Controls. Additionally Defence has undertaken to rectify a Julian Date[4] issue associated with SDSS.

New Military Integrated Logistic Information System – Joint Project 2077

11. Defence and the DMO have noted that the current Logistics Information System, of which SDSS is a core component, does not adequately fulfil the logistic information requirements, to integrate data to support effective decision making. Defence also notes that it does not effectively support operational and corporate requirements and is overly complex, inflexible, inefficient and costly to run.

12. Planning for the new Military Integrated Logistics Information System envisages a modern, responsive and agile system, capable of delivering meaningful information as a component of a joint logistics support system for the support of base, lines of communication and areas of operations. The system is expected to be highly automated, intuitive, interactive, and predictive, to deliver timely, accurate information as required, and on demand to support decision making, planning, and routine operations. Defence advised the ANAO that the new system will provide improved in-transit visibility, an improved deployable capability and a radio frequency identification capability.

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[3] Joint Project 2077 has been created to provide Defence with a single strategy to achieve a new Military Integrated Logistics Information System in a controlled, multistage process.

[4] The Julian Date issue represents a problem with the way in which SDSS manages dates within the system. The original system provided for a system life of 9 999 days from the time it was implemented, after which an internal counter would effectively roll over to four zeros.

Audit approach

13. The objective of the report is to review the effectiveness of remediation activities put in place by Defence and the DMO to improve the performance of SDSS following the delivery in July 2003 of the SDSS Upgrade Project, with specific attention to the SDSS Get Well Programme. The audit reviewed the outcomes of the Get Well Programme, and assessed how effectively a segment of the Defence supply chain (of which SDSS is one key component) was meeting selected maritime end user capability and reporting requirements. In order to achieve this, the audit reviewed three key maritime combatant forces: COLLINS Class submarines; Adelaide Class Guided Missile Frigates (FFGs); and ANZAC Class Frigates. The ANAO notes that these three capabilities account for some 50 per cent of the Navy's total forecast expenditure for 2006–07.

Overall audit conclusions

14. SDSS is a key contributor to the ability of Defence to provide the necessary logistics support for operational capabilities. It is necessarily a large scale, high volume transaction system with interfaces to many other Defence systems. There are both technical, and personnel dimensions that affect the performance of SDSS, which pose ongoing challenges to the delivery of effective service by the system to the ADF.

15. At a technical level, SDSS is now some two decades old, and although it has been expanded and upgraded, it remains dated. This, in turn, has had an adverse affect on user acceptance, and the integrity of data input and maintenance, which ultimately contributes to a degraded supply chain capacity.

16. Notwithstanding increased operational deployments and subsequent increased equipment use rates, the ANAO's audit testing identified material deficiencies in the ability of the Defence supply chain to provide consumable and replacement parts to end users in Navy, as required to support specified ADF operational Demand Satisfaction Rates. The ANAO reviewed the Demand Satisfaction Rates associated with meeting the operational expectations of three major maritime capabilities, namely for the COLLINS

Class submarines, ANZAC Class ships, and the remaining FFGs.[5] Information obtained indicates that the performance of the Defence Supply Chain, which incorporates, but is not wholly reliant on SDSS, shows a steady decline in its ability to support specified, and agreed operational Demand Satisfaction Rate requirements for consumable and repairable stores, in support of operational commitments. The DMO advised the ANAO that, for the classes of ships mentioned in the audit report, the required operational availability for all three classes was met in the period under review by the ANAO, despite an increased operational tempo.

17. The ANAO also reviewed a sample of high value items that had been placed in quarantined storage because there was doubt over their status, requiring further investigation. The ANAO found that 63 per cent were placed in quarantined storage because the required documentation relating to test information had not been provided at the time of required use. SDSS does not flag when an item could be remediated under warranty. The DMO would benefit by actively managing the reasons, value and amount of stock that is returned to warehouses for storage under quarantine. In doing so, eligible warranty claims could be exercised, as and when appropriate.

18. The ANAO noted that, inter alia, some items were being placed in quarantine storage as a result of unauthorised purchase orders.[6] Additionally around 10 per cent of items were listed with an in-transit time of over two years, with the longest date listed as nearly nine years. Some of these items constituted valuable and attractive goods. Both Defence and the DMO should periodically review the underlying reasons for stock that has been in transit for extended periods.

19. The ANAO noted that, for the key roles associated with: purchasing; inventory management; asset management; and information and security; there was a high degree of non-compliance with required controls. This had

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[5] The ANAO reviewed and correlated repairable and consumable item's Demand Satisfaction Rates with Platform Mission Capability measures for the period from August 2005 until April 2006. This assessment includes the ability for platform classes to rectify urgent defects, which are those with the potential to significantly impact on the operational capability of the vessel in a specified time frame. During the period reviewed, the DMO could not provide Mission Capability information for the months of September 2005 and December 2005. Of the months where information was made available, one platform class reported satisfactory performance in terms of the supply of consumable stores in only one month, and did not report an acceptable ability to supply repairable items in any months. Also, that platform class reported an inability to satisfactorily rectify urgent defects in the required time period for any of the months in the reporting period.

[6] Reasons for items being quarantined include a lack of required certification documentation, and equipment not being recognised as the required part.

contributed to the qualification of the audit opinion on the Department of Defence's financial statements for 2004–05.[7] To improve upon the high degree of non-compliance, the DMO is currently in the process of enhancing information technology controls, and plans to conduct additional reviews and audit processes.

20. The ANAO conducted an assurance review into the information technology controls in mid 2006 which demonstrated significant levels of non-compliance with system controls. DMO units subsequently conducted further self-assessment compliance checks in August 2006. The DMO advised that this self-assessment provided Defence with a baseline of compliance which will serve to inform the future direction of work to develop and implement the required controls.[8] The ANAO will review the level of compliance with system controls during the 2006–07 financial year as an element of its financial statement audit coverage.

21. The improvements already advanced by the SDSS remediation programme (the Get Well Programme), underpinned by effective training, will be central to the ongoing immediate operability of SDSS, and to assure the integrity of system information.[9] It will be some time for the full effects of the outcomes of the Get Well Programme to be realised, a process that will require continuing emphasis on training, and reinforcement of the use of appropriate business processes through quality assurance initiatives. In view of shortcomings in the functionality and performance of SDSS, Defence is now in the early stages of introducing a new Military Integrated Logistics Information System (which is anticipated to be operational in 2008).

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7 The 2004-05 ANAO audit opinion on the financial statements for the Department of Defence noted that, due to inadequacies in the department's General Stores Inventory management practices, the General Stores Inventory component of $1.294 billion of the reported Inventory balance totalling $3.387 billion could not be validated. This is as a result of material weaknesses in the internal controls over the accurate recording and stocktaking of the inventory quantities, and a lack of documentation and systems controls to confirm and safeguard the accuracy of pricing data. At the date of preparation of this report, the audit opinion on the Department's financial statements for 2005–06 had not been issued.

8 Subsequent to the ANAO assurance review of the SDSS Information Technology Control Framework June 2006 report (see Table 3.2) Defence units conducted further self assessment compliance checks and the DMO advised that a contracted review of those compliance checks was undertaken across the 50 key units they assessed as 'material', based on value and volume (see Table 3.3). The DMO advice is that this provided Defence with a baseline of compliance in relation to practices associated with: inventory, asset, purchasing and security management.

9 In addition, Defence has planned to implement an audit and monitoring capability with the provision of an additional 178 staff to assist with remediating the shortfalls with current business practices.

Key findings

Remediation requirements (Chapter 2)

22. The September 2004 DMO SDSS Get Well business case noted that the poor system performance was capable of seriously degrading the efficiency and effectiveness of the supply chain, and that performance issues have a major impact on SDSS operations. The business case for the SDSS Get Well Programme Management Activities highlighted shortfalls associated with the availability of suitably skilled DMO staff, in that there were insufficient staff with the necessary skills or expertise to fully staff the proposed SDSS Get Well Project Integrated Project Team, required to be in place from 1 July 2004. To combat this shortfall, the DMO assessed that an additional $9.8 million was required to undertake activities to address the requirements of the Get Well Programme.

23. In addition to the Get Well Programme, the DMO and Defence were progressing a series of separate remediation activities that were designed to improve the capability of the Defence supply chain, and these impacted on SDSS operability. Of those Projects covered by this report, it is of note that the DMO addressed: a major system deficiency when the system modifications for the Julian Date Issue[10] were delivered in April 2006, with the assistance of the software developer for SDSS; as well as developing a framework to manage its ongoing information technology access control requirements.

SDSS Get Well activities (Chapter 3)

24. Following the study undertaken by the DMO to identify the contributing factors associated with negative operational aspects of SDSS and the integrity of financial management information available from the system, a Business Process Compliance Project (a component of the Get Well Programme) was initiated that specified a requirement to review high priority business processes of the SDSS operating environment.

25. Those processes of high importance were identified as processes associated with acquiring a capability, and sustaining a capability.[11] The DMO

[10] The original SDSS system provided for a system life of 9 999 days from the time it was implemented, after which an internal counter would effectively roll over to four zeros. Without remediation, this aspect of the system was expected to adversely impact on SDSS operations from 18 May 2007. This was known as the Julian Date issue.

[11] The Business Process Compliance Project was to review two high priority SDSS-related operating segments within several major functional areas of Defence, to identify the underlying issues that were impacting on process compliance and affecting the integrity of financial reporting data.

sought to ensure, in a broad sense, the Defence Supply Chain business processes were capable of supporting the supply chain as designed via a Business Process Compliance activity. The outcomes included reports providing recommendations for system management improvement requirements.[12] Implementation of the recommendations following from those reports did not constitute an element of the Get Well Programme. DMO documentation indicates that all 118 recommendations adopted for implementation following the Business Process Compliance review were completed by July 2006.

26. Key areas in which the DMO has improved systems performance during the Get Well Programme include data quality controls, improved system financial capability and systems performance (mainframe and infrastructure). This work has been complemented through a structured approach to change management and user communication.

27. The DMO has also sought to improve performance and compliance through a parallel activity, associated with improving the SDSS information technology controls framework, specifically for the key roles associated with purchasing, inventory management, asset management, and information and security. Notwithstanding these control framework improvements, the ANAO provided assurance against a June 2006 Defence Joint Logistics Command report, which identified non-compliance with the required controls (controls not in place) that ranged from 11 per cent for information security,[13] to 44 per cent for asset management. Defence has advised that subsequent to the ANAO financial statement review into the information technology controls, DMO units conducted further self-assessment compliance checks which provided Defence with a baseline of compliance which will serve to inform the future direction of work to develop and implement the required controls.

28. Even though the Business Process Compliance recommendations were completed during the period of audit fieldwork, many of the potential gains from these initiatives will not be fully realised for some time. Training, and process reinforcement activities will be required to embed the new processes.

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[12] Specific business processes earmarked for improvement included: stocktaking, codification (both stocktaking and codification business process reviews were completed prior to the submission of the Get Well Business Case), repair, Planning Approval/Work in Process, Deliverables/Closure, Install/Uninstall, Ordering Goods, Receipt of Assets, Receipting Stock, Vendor Payment, Issue/Consume, Requisitioning Stock, Disposal of Stock, Stock Level-Lifecycle, Contract Maintenance.

[13] The DMO report notes that there is a lack of awareness of control requirements.

The ANAO observed continuing shortfalls associated with meeting both financial management compliance, and data quality targets.

29. The DMO advised the ANAO in August 2006 that, following the implementation of the new Information Technology Controls Framework and the Business Process Compliance recommendations, the focus of activity is in two areas. The first is to ensure end user compliance with the process and controls by training, expert assistance, ongoing exception reporting and investigation, and enhanced compliance and review activity. The second is to address the issue of data quality on the system by relying on enhanced compliance to reduce the incidence of poor quality data entering the system, and by reviewing and amending existing data through stocktaking activities.

Supply Chain outcomes for capability (Chapter 4)

30. The ANAO reviewed the delivered performance of the Defence supply chain in managing quarantined, high value stores used by Navy. SDSS is a key system used to manage these items. Using the information Defence had to hand in Western Australia, the ANAO sampled 19 high value items, held in quarantine storage.[14] The ANAO noted that of these items, 63 per cent were being held because they had been issued without the necessary documentation (known as Objective Quality Evidence (OQE)). This information is required to demonstrate that they had been tested as being fit for purpose. Of the sample undertaken, 67 per cent of the stores had been held in quarantine storage, without any remediation action being undertaken, for a period in excess of three years.

31. The DMO is currently reviewing the requirements associated with OQE for stores issued to the COLLINS Class submarines, which may serve to reduce the incidences associated with holding stores in quarantine in Western Australia. Notwithstanding, the ANAO considers that the DMO would benefit from reviewing stores held in quarantine to ensure items supplied under warranty without the necessary documentation are returned to the supplier within the warranty period for testing and certification, at the respective contractor's cost.

32. Stores listed as being In-Transit constitute a value within the SDSS system of some $61.13 million. The ANAO reviewed the management of those items, and noted that the average time this equipment spends In-Transit was

[14] Where there is any doubt over an item's operational status, the item is placed in quarantined storage awaiting further investigation.

104 days, with some elements remaining In-Transit for periods of up to nine years. Many of these items constitute valuable, and attractive items, such as radio frequency tuners, tents, and underwater equipment. Defence would benefit from frequent reviews of equipment classified as being In-Transit, with particular emphasis on identifying potential losses from the system of equipment that is never delivered following dispatch.

33. In order to assess the effectiveness of the Defence supply chain, the ANAO reviewed the Demand Satisfaction Rates[15] associated with supplying stores to three Royal Australian Navy capability elements: COLLINS Class Submarines; ANZAC Class frigates; and the FFGs. The provision of spare parts is not the only element impacting on Operational Availability.[16] However, there is a strong correlation between the materiel availability for these vessels to undertake their intended roles, and the ability for the Defence supply chain to support the platforms with stores required to address issues with defective equipment.[17]

Agency response

34. The Department of Defence provided a response (see Appendix 1) on behalf of the DMO and Defence. Defence agreed with both recommendations made in this report. The Defence response stated that:

> Defence notes the overall positive assessment of the SDSS Remediation Program. Identified shortfalls in performance have been addressed through the Get Well Program; remediation of a date processing problem; enhanced business processes; and the introduction of an enhanced information technology controls framework, with full compliance expected to be achieved by October 2006.
>
> SDSS has been deployed with ADF units and has proven very effective in supporting operational forces.

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[15] The individual Systems Programme Offices have agreed levels of Demand Satisfaction with the corresponding Force Element Groups, in which they set out acceptable time frames for receiving spare parts.

[16] Many elements contribute to supply chain effectiveness, including: timings of placements of orders; decisions on funding and prioritisation of purchases based on acceptable risk; unexpected events or incidents; operational requirements; availability of supplies; delivery time of supplies; and receipt and data entry of supplies.

[17] The DMO advised the ANAO in August 2006 that while Demand Satisfaction Rates can represent a potential impact on Operational Availability, it is only one of many factors that impact on Operational Availability, and does not necessarily translate into a real impact on Operational Availability. The DMO advised the ANAO in August 2006 that Navy and the DMO are in the process developing a replacement Key Performance Indicator for Demand Satisfaction Rate for Navy units.

The Military Logistics Information System will continue its development path through Joint Project 2077. The next phases of this project will deliver new core software, increased financial functionality; improved in-transit visibility, an improved deployable capability and a radio frequency identification capability.

To improve user compliance with the system, Defence is devoting additional resources to training, expert assistance, ongoing exception reporting and investigation, and enhanced compliance and review activity. This will ensure the quality of new data entering the system. The existing data on the system is being progressively reviewed and amended through normal stocktaking processes.

Recommendations

Set out below are the ANAO's recommendations, with report paragraph reference. The recommendations are discussed at the relevant parts of this report.

Recommendation No. 1 Para 4.13

The ANAO recommends that Defence and the DMO assign responsibility for, and take appropriate steps to ensure that, items returned as defective to Defence warehouses under warranty are reviewed, and where appropriate, repaired by the supplier at no cost to Defence and the DMO.

Defence and DMO response: **Agreed.**

Recommendation No. 2 Para 4.18

The ANAO recommends that, Defence develop a plan to review items that have been listed as 'in-transit' for a period in excess of 90 days, and report on a regular basis to the Joint Logistics Command.

Defence and DMO response: **Agreed.**

Audit Findings and Conclusions

1. Introduction

This chapter provides an overview of the Standard Defence Supply System, its development, recent upgrade activities, and sets out the scope and objectives of the audit.

Background

1.1 The Standard Defence Supply System (SDSS) is a key element of the Australian Defence Force (ADF) logistics management capability. The system supports the joint capability associated with the employment of Defence resources to meet national Defence initiatives. Defence documentation indicates that SDSS is used to manage over 1.6 million items in General Stores Inventory, worth $1.29 billion. The system, and supporting systems, also manage the transactions associated with $2.72 million of Repairable Items (a component of Specialist Military Equipment). The system forms one of the main business management pillars on which Defence relies to manage its activities.

1.2 The operational effectiveness of SDSS is dependent upon successful performance of all its key elements: the information architecture and supporting hardware (such as servers and bandwidth); the core software; supporting business processes (both their design and ongoing compliance); data on the system (its input and its quality); user training and competence; reporting functionality; compliance monitoring; and investigation and audit processes. Shortcomings in any of these elements impacts on the system and its capacity to support both the management and operational needs of Defence. At the same time, the ongoing refinement and future development of the system requires attention to all of these elements.

1.3 Prior to the rollout of the initial SDSS product in the early 1990s, Defence lacked a joint ADF logistics business management process.[18] The Project associated with upgrading SDSS to *version 4* was designed to deliver, inter alia, a Standard Supply Chain System across the whole Defence user base, tighter controls over data integrity and transaction processing, and improved finance functions.

[18] The JCPAA Report 317 *'A champagne appetite but only a beer income-Defence's Supply Systems Redevelopment Project*', of 1992 covered the development of the original SDSS product.

1.4 At the completion of the SDSS Upgrade Project in 2003 (see Table 1.1), the Australian Defence Organisation Logistics Information System comprised 250 different applications that did not adequately fulfil the logistic information requirements or integrate data to support effective decision making by logistics managers.[19] Defence identified three key deficiencies with the current system, which were to be addressed by Joint Project 2077.[20] The Equipment Acquisition Strategy[21] associated with acquiring a replacement system for SDSS reported that the current Logistics Information System did not effectively support operational and corporate requirements; the Logistics Information System was overly complex, inflexible, inefficient and unnecessarily costly to run; and there was no effective planning or development framework for the Logistic Information System.[22]

Table 1.1

SDSS Get Well Chronology

Date	Activity
July 2003	SDSS *version 4* goes live
April 2004	Get Well activities commence with SDSS site visits
September 2004	SDSS Get Well Business Case is approved
December 2004	SDSS Get Well Programme is closed

Source: Defence Documentation

[19] Following the East Timor commitment, the Defence Chiefs of Staff Committee noted that: Failure to afford priority resources to adequately developed ADF logistics management systems over the years has resulted in an inability to assure timely, controlled logistic support to deployed forces.

[20] The Joint Project 2077 approved Equipment Acquisition Strategy noted that Logistics Information System issues became increasingly evident following the ADF deployment to East Timor in 1999 and the Middle East in 2003, where these deployments highlighted the inability for Defence to effectively track its supplies as they moved from wholesale stocks to deployed ADF units.

[21] The Equipment Acquisition Strategy for a Major Project defines the business case, and is a key document for Government consideration in the two pass approval process. Defence notes that the Acquisition Strategy should present Government with all the information necessary to select an acquisition method that maximises value for money. As part of the acquisition strategy for the proposed replacement system (the Military Integrated Logistics Information System), being delivered through Joint Project 2077, the October 2005 Equipment Acquisition Strategy identified that the deficiencies with SDSS has created a reduced capacity for the ADF to operate freely.

[22] Defence note that the capability deficiencies incur consequences that include lateness of supply, loss of consignments, wasted staff time due to searches and adverse impacts on the planning and conduct of operations. Defence also noted that lessons learnt from the Middle East deployments underscored the opportunity cost of not being able to fully use the United States logistics supply chain during Coalition operations. Defence note that problems associated with a lack of responsiveness to end users in theatre joint logistics and lack of coordination in logistics information management were encountered.

1.5 Defence also noted in October 2005, when defining the Acquisition Strategy for Joint Project 2077, that operationally, the Australian Defence Organisation logistics structures, systems and processes, had not proved suitable to support military deployment during operations in East Timor, Bougainville and Cambodia. Defence also noted that these deficiencies had reduced the capacity to operate the ADF freely, and that the lack of data integrity with the existing system had forced ad-hoc investments in the Logistics Information Management System to patch up shortfalls while developing a longer term strategy to address the issues.

1.6 In September 2001, the Defence Capability Investment Committee endorsed Joint Project 2077 Phase 1 for $23 million, in parallel to the SDSS Upgrade Project, to provide more efficient and effective logistics support to Defence through six discrete activities: better performance measurement and financial planning; improvements to the Logistics Information System computer network; standardisation of logistics systems and procedures; improved inventory management practices, a better central catalogue, and enhanced consignment visibility.

1.7 In 2002, Joint Project 2077 progressed in two parallel streams, which lead to the development of an Operational Concept Document to define the requirements, and a Project Definition Study, which determined which enterprise resource plan should be used for Defence logistics, and a strategic information systems plan, outlining a 'Road Map' for the development path to be used for Joint Project 2077 activities. The Defence Capability Committee approved the incremental upgrade of the existing Logistics Information System in April 2003.

1.8 The DMO advised the ANAO that there are increasing demands on the logistics information system arising from: the increased operational tempo and the deployment of the ADF; the increased number and dispersal of users; the introduction of accruals based budgeting and accounting;[23] and advances in computing technology. There are acknowledged shortcomings in the performance of SDSS, related primarily to system controls, business process compliance and data quality.

1.9 In July 2003, the then Minister for Defence noted the proposed approach, and agreed to split the Project into two phases: Phase 2A to establish processes and plans to ensure a whole of capability approach to future logistics

[23] The Defence Annual Report 1996–97 (page viii) notes that, following a Government decision in 1992, all departments were obliged to provide financial statements on an accrual basis.

systems development; and Phase 2B (with a proposed year of decision 2004-05) to deliver a coordinated programme of work to enhance the Logistics Information System.[24] The DMO advised the ANAO in August 2006 that, a 24 month acquisition and implementation phase is scheduled to commence in September 2006 with 'go live' planned for the third quarter of 2008.

1.10 In response to an identified inability to track its supplies as they transited from the initial supplier to the ADF user in the field, Defence introduced Phase 2C, the 'Visibility Programme'. This phase of the Project is intended to provide the ADF with increased visibility of stock as it transits the supply chain. The follow-on Phase 2D is intended to rationalise, upgrade, replace and introduce additional logistics information systems capabilities to improve logistics support to the Australian Defence Force. Scheduled decision dates relating to Joint Project 2077, as at August 2005, are represented at Table 1.2.

Table 1.2

Joint Project 2077 Major Capital Cost and Expenditure Schedule – July 2006

Milestone	Start Date (pre-first pass)	Next Step	Next Step Planned Completion Date	Second Pass Approval	Commitment ($ Million)
Phase 2A	June 2003	Completed June 2005	Completed June 2005	Not Applicable	15.900
Phase 2B.1	July 2005	Acquisition	February 2009	July 06	132.185
Phase 2B.2	November 2005	Second Pass	December 2006	Not Yet Achieved	92.500
Phase 2C	June 2005	Project End	June 2007	July 05	24.048
Phase 2D	February 2006	First Pass	December 2006	Not Yet Achieved	401.000

(a) Costs and commitments associated with delivering Minor Projects such as the ADF Deployed Logistics System have not been included in this amount, as funds were provided for Defence sponsors who required specific approved outcomes prior to scheduled Joint Project 2077 deliverables and outcomes.

(b) Minor Project funding provided for specific Minor Projects such as Automated Identification Technology (pilot study), Defence Transaction Processor, ADF In-Transit-Visibility and Central Catalogue Replacement, which have received funding from specific Defence sponsors prior to scheduled Joint Project 2077 deliverables and outcomes.

[24] The Logistics Information System comprises several applications in addition to SDSS and is based on MIMS software (provided by MINCOM Ltd). It includes the Defence-built Central Catalogue (CENCAT) the, Navy Allowance Management (NAVALLOW) system, the Cargo Visibility System (CVS), the Advanced Inventory Management System (AIMS), an inventory optimisation product and SLIMS/AMPS (shipboard inventory management systems).

(c) The August 2005 Joint Project 2077 Acquisition Strategy notes that funding requirements for Phase 2D has not been fully established, as Phase 2D has not been fully scoped, or defined. The Defence Capability Plan 2006-2016 notes that In-service Delivery is required for Phase 2D between 2012 and 2014.

Source: DMO August 2006

Previous audit coverage

1.11 An audit of the SDSS Upgrade Project was tabled in Parliament by the ANAO in August 2004,[25] and subsequently reviewed by the Joint Committee of Public Accounts and Audit (JCPAA), following which a report was tabled in October 2005.[26]

1.12 Defence advised the ANAO in early 2004 that, following a series of post SDSS Upgrade delivery site visits, a remediation programme had been instigated to address the material shortcomings associated with the delivered SDSS *version 4* upgraded system. The remediation activity was called the SDSS Get Well Programme (the Get Well Programme),[27] and was specifically aimed at ensuring:

- SDSS operates to the standard required to provide a consistent and auditable outcome for Defence supply chain operation;
- The system supports reliable supply chain information utilising the management controls put in place; and
- Key stakeholders are involved in a co-ordinated approach.

1.13 In June 2004, the Get Well Programme was established with a Programme Governance Board, and included the introduction of several enhancements to SDSS *version 4*. The Project was managed as a Programme of focused support activities and included the following work elements:[28]

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[25] ANAO Report No. 5 2004–05, *'Management of the Standard Defence Supply System Upgrade.'*

[26] JCPAA Report 404 *'Review of Auditor-General's Reports 2003–2004 Third & Fourth Quarters; and First and Second Quarters of 2004–2005'*, October 2005.

[27] The DMO Project Management Methodology Minors (PMMM) Manual Version 1.0 notes that a Programme is a collection of projects that together achieve a beneficial change for an organisation. Within Defence acquisition, the delivery of new or enhanced capability often involves the management and coordination of a range of separate 'projects'.

[28] The DMO PMMM Manual Version 1.0 notes that a generic definition of a project is that it is a temporary endeavour undertaken to create a unique product or service, and the broad definition of a project can include any type of temporary endeavour to produce any type of a defined outcome. A project within the DMO PMMM context relates to the acquisition of a materiel system defined in a Capability Development proposal and specified in detail within an approved Minor Capital Equipment Submission.

- Systems Performance, including mainframe improvements, and network improvements that were descoped from the original SDSS Upgrade Project to save costs;
- Financial Capability, to provide new, and improved functionality and reporting capabilities;
- Data Quality, which aimed at coordinating Supply Customer Account ownership, management, and data cleanup;
- Business Process Compliance, which sought to assign responsibility to responsible officers throughout Defence for managing the improvement of compliance with approved business process rules;
- Software Defects; which sought to address shortcomings associated with the code underpinning the operability of the system; and
- Change and Communication; which was aimed at involving the end-user in the Get Well process.

1.14 In August 2004, Defence advised the ANAO that the Get Well Programme was not to be managed as a Major Capital Project, nor a single activity, but rather by a means that represented a way of coordinating and focussing support activities, whilst giving it high level management focus and oversight. Defence indicated that funding for 2004–05 SDSS system support would be boosted to around $7.892 million to accelerate the range of actions comprising the SDSS Get Well Programme.[29]

1.15 In 2005, following the completion of the SDSS Get Well Programme, the ANAO financial statement audit of Defence accounts reported that, following an assessment of SDSS controls, and the related business and accounting processes, limited reliance could be placed on the controls to produce reliable quantity records for General Stores Inventory and Repairable Items for financial reporting purposes, and significant anomalies across elements of the controls framework were identified, including:

- weaknesses associated with the control of access to the system, which impacts on the security of the system, and thus the validity of the data held within the system;

[29] Defence advised the JCPAA in June 2005 that the total expenditure associated with contractors for the Get Well Programme was $1.18 million, and that this expenditure covered the Programme Management Office, including Change and Communications costs.

- concerns relating to the future viability of the system for the purposes of financial reporting, based on the then impending system failure caused by the date boundary issue (referred to as the 'Julian Date' issue); and
- business process compliance issues (as identified by Defence) which were not fully remediated by 30 June 2005.

1.16 The ANAO notes that since these conclusions were made, the DMO has delivered the accepted, recommended actions flowing from the Business Process Compliance Project, which, when supported by the revised training regime, hold the potential to improve system performance. In addition, the DMO has addressed, and overcome the potential impediments associated with the Julian Date issue and instituted a regime of increased Information Technology Controls.

1.17 In May 2005, Defence advised the Joint Committee for Foreign Affairs, Defence and Trade that Defence Joint Project 2077 Phase 2B sought to improve the current SDSS system. First Pass approval for Joint Project 2077 Phase 2B to expend $10 million on the design phase was obtained from Government on 15 June 2005, with an anticipated Project Budget of $150 million. The task of undertaking the detailed design work for the follow-on system was awarded to the supplier of the existing software for the SDSS system. The system chosen to replace the SDSS MIMS Operating Environment *version 4* is known as Ellipse.

1.18 In August 2006, the DMO announced that the contract to deliver Joint Project 2077 Phase 2B had been signed with MINCOM to provide a range of improvements over the current SDSS system. This upgrade would include, most importantly, a new core software based on the MINCOM Ellipse software and greater financial management functionality, to be completed by late 2008.

Audit approach

1.19 The objective of the report is to review the effectiveness of remediation activities put in place by Defence and the DMO to improve the performance of SDSS following the delivery in July 2003 of the SDSS Upgrade Project, with specific attention to the SDSS Get Well Programme.

1.20 The audit reviewed the outcomes of the Get Well Programme, and assessed how effectively a segment of the Defence supply chain (of which SDSS is one key component) was meeting selected maritime end user

capability and reporting requirements. In order to achieve this, the audit reviewed three key maritime combatant forces: COLLINS Class submarines; Adelaide Class Guided Missile Frigates (FFGs); and ANZAC Class Frigates. The ANAO notes that these three capabilities account for some 50 per cent of the Navy's total forecast expenditure for 2006–07.

1.21 Fieldwork was conducted between March 2006 and June 2006. The audit team met with areas within Defence, and the DMO including: the Joint Logistics Command; end users; warehouse staff; as well as the DMO Materiel Systems Division. The ANAO provided Issues Papers to Defence and the DMO in July 2006, followed by a draft audit report in September 2006. Defence provided a response in October 2006.

1.22 The audit was conducted in accordance with ANAO auditing standards, at a cost to the ANAO of $270 000.

2. Remediation Requirements

This chapter reviews the requirements that lead to the remediation of the recently upgraded Standard Defence Supply System, and specifies the funding allocations made to effect improvements to the system.

Background

2.1 Following the delivery in July 2003 of SDSS *version 4*, the DMO undertook to review the success of the SDSS Upgrade, during the period February to March 2004. That review lead to the development of an SDSS Site Validation Visit Report in April 2004, which grouped the issues associated with the performance of the Supply Chain under five broad headings, which were: System Performance; Business Process Compliance; Data Quality; Software Defects; and Financial Capability Gaps.

2.2 In December 2005, the Defence Audit Committee was informed by Defence that the qualifications relating to the Defence financial statements relating to General Stores quantities and pricing, Repairable Items quantities, and Not In Catalogue items will likely not be completely remediated during 2005–06. Also, the inability for SDSS to implement controls to satisfy management and audit requirements remained a paramount challenge which was likely to affect the ability for Defence to deliver financial statements against which an opinion could be made.

Recommended Remediation Actions

2.3 Recommended actions arising from the 2004 Site Validation Report included strategies to address deficiencies. Progress associated with resolving the specific concerns raised by end users that were associated with Problem Reports, User Requirement Specifications and SDSS Help Desk Actions were tracked via the Defence Intranet Site. In parallel, the visit report stated that a Supply Chain System Programme Office led team was addressing related, higher level issues to ensure the inherent causes behind poor community perception of SDSS performance, function and process were addressed.

2.4 The key areas to be addressed by the Get Well Programme were:

- System Performance, defined as the significant variation in system performance in areas such as client response times, batch job execution times, printing delays and system stability currently affecting productivity and user confidence in SDSS.

- Business Process, to improve user compliance with business procedures against which all parties execute their business within the Defence Single Supply Chain.
- Data Quality, to address the Defence legacy of non-compliance with business procedures, and thus reduce the amount of data within the system of questionable integrity.
- Financial Capability Gaps, with specific attention to the sub-optimal capability for SDSS to report financial data to ROMAN.
- Bug Fixes, which were to be addressed as part of the daily operation of the support arrangements for SDSS to address system deficiencies.

The Get Well Programme Requirements

2.5 In April 2004, a targeted Programme of activity to address the shortfalls with the delivered SDSS *version 4* was recommended for remediation action by the DMO. Included within the scope of remediation was the way in which the system was hosted in the Defence Information Technology Environment, and the manner in which it was utilised by its stakeholders. The DMO noted that, with the exception of the Financial Capability Gaps Project, up until 30 June 2004, all the applicable sustainment areas were using existing support budgets to effect remediation activities. Funding in addition to the support budgets allocated for SDSS was sought via a business case, submitted to the Chief Executive Officer of the DMO for approval.

2.6 Work associated with the financial and reporting elements of SDSS were progressed as a Real Cost Increase of $686 000 to the SDSS Upgrade Project funding. The delivery date required of the Financial Capability Gaps Project was July 2004.

2.7 The submission for programme support services and increased sustainment resources was developed following work already undertaken to remediate shortfalls with the delivered SDSS *version 4* product, associated with:

- Slow system response times at some sites;
- Lack of some financial reports that were expected to be available;
- Concerns relating to the integrity of the accounting of assets;
- Integrity of warehouse and Supply Customer Account balances;

- Integrity of Price records; and
- Deficiencies associated with process definition and business process ownership.

2.8 The DMO reported that, up until 30 June 2004, $2.172 million was expended against Get Well activities, as summarised at Table 2.1. In September 2004, some six months after remediation work associated with the SDSS Get Well Programme commenced, the business case noted that system performance was capable of seriously degrading the efficiency and effectiveness of the supply chain, and that performance issues have a major impact on SDSS operations.

Table 2.1

Summary of Get Well Expenditure to 30 June 2004 utilising existing funding lines

Activity	Cost $ million
System Performance Improvements	0.75
Business Process Compliance Improvements	0.294
Data Quality Improvements	0.331
Software Defect Rectification	0
Financial Capability Gap Rectification	0.687
Change Management and Communications	0.071
Programme Management	0.039
Total Expenditure	2.172

Note: Of these costs, $0.467 million were consumed from an annual Divisional operating budget for SDSS totalling $11.693 million in 2003–04. In addition, a Real Cost Increase to the SDSS Upgrade Project to the value of $0.687 million was consumed, as well as $0.75 million from the DMO Information System Division's operating budget for 2003–04, and $0.268 million contributed from the DMO Material Finance Division.

Source: DMO

2.9 The Get Well business case submission notes that SDSS Get Well was not designed to address all known deficiencies with SDSS *version 4*, and that whilst funding provided for SDSS ongoing support and maintenance was being applied to address systemic and site-specific systems issues, a specific and targeted programme estimated to cost $8.296 million was required to address the remaining critical and urgent issues beyond the steady state

maintenance funding.[30] The business case submission was approved in September 2004, after a substantial part of the work for which the submission was developed had already been completed.[31] A summary of those additional outcomes, and funding to be applied to those outcomes for elements of the SDSS Programme, is summarised at Table 2.2.

Table 2.2

SDSS Get Well Funding Allocations

SDSS Get Well Programme Project Element	Estimated Cost $ million
System Performance Improvements[(a)]	3.752
Business Process Review	1.301
Data Quality	2.242
Programme Management, Change Management and Communications[(b)]	1.001
Total Estimated Cost	8.296

Notes:

(a) This requirement was to be funded through the reprioritisation of the DMO Information Systems Division 2004-05 budget.

(b) An alternative proposal covered the option of additional funding for five in number contracted staff at $1.516 million per annum, commencing in January 2005.

Source: DMO SDSS Get Well Business Case

2.10 The ANAO notes that the September 2004 business case for the SDSS Get Well Programme Management Activities highlights shortfalls associated with the availability of suitably skilled DMO staff, in that there were insufficient staff with the necessary skills or expertise to fully staff the proposed SDSS Get Well Project Integrated Project Team, required to be in place from 1 July 2004.[32]

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30 The costs associated with implementing the System Performance Improvements was estimated to be $3.752 million, to be funded through the reprioritisation of the DMO Information Systems Division 2004–05 budget.

31 The Financial Management and Accountability Act 1997 Regulation 13 stipulates that a contract, agreement or arrangement must not be entered into under which public money is, or may become, payable unless a proposal to spend public money for the proposed contract, agreement or arrangement has been approved.

32 The Integrated Project Team was required to undertake five distinct project tasks, namely: system performance; business process compliance; data quality; software defects; financial capability gaps; and change management and communications.

2.11 In addition to the first phase of the Programme outcomes, the September 2004 business case sought to retrospectively provide funding to ensure a coordinated approach to programme management.[33] This level of co-ordination would have been more beneficial had it been applied from the outset of the Get Well Programme activities, in April 2004. The business case document did not clearly specify, and would have been enhanced by key performance indicators relating to the degree, or level of improvements sought to be achieved by the Get Well Programme.

Financial Approvals

2.12 The overall Get Well Programme constituted an amalgam of activities ranging from funded Minor Projects, to through-life-support activities undertaken using existing funding. Central to the success of the programme was the selection, and oversight of contractors to deliver the programme outcomes that were outside the capabilities of DMO and Defence staff.

2.13 The ANAO sampled a series of contracts linked to activities contracted for delivery during the Get Well Programme. In one of the contracts sampled, the ANAO noted that a liability approver submission for work to be undertaken in June 2004 against SDSS Get Well remediation activities was approved retrospectively. The submission was required to form a contract to provide for a professional service provider to conduct programme management activities for the SDSS Get Well Programme at a cost of $172 514 on 30 June 2004,[34] even though the Service Order stipulated that the work should be carried out during the period from 1 June 2004 to 30 June 2004.[35]

2.14 Following the first phase of the Programme outcomes, the Business Case for additional funding to implement the second phase of Programme

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[33] The DMO required this additional funding to provide regular updates to end users to aid them to understand and accept changes being implemented to SDSS, and associated processes.

[34] The outcomes associated with this Service Order were defined as General Services, and Project Specification Services, whereupon six Professional Service Provider staff acted as the Programme Manager, reporting Co-ordination Officer, Status Reporting Officer, Communications Project Manager, Communications Support Project Manager, and Business Process Compliance Project Setup Project Manager. A Tax Invoice from the Professional Service Provider dated 29 June 2004 provided a summary time sheet report for the Personal Services Staff listed in the retrospectively arranged Service Order, to the value of $149 144.78, for the period of coverage approved in the retrospectively signed Service Order.

[35] Under the Financial Management and Accountability Act 1997 Regulation 13, a person must not enter into a contract, agreement or arrangement under which public money is, or may become, payable unless a proposal to spend public money for the proposed contract, agreement or arrangement has been approved under the provisions of the Financial Management and accountability Act 1997 Regulation 9 and, if necessary, Regulation 10.

management activities, developed in September 2004,[36] sought to retrospectively provide funding to ensure a coordinated approach to programme management work for the second Phase of the Project, which included work from 1 July 2004 until 30 September 2004, to the value of $661 408.

2.15 Subsequent amendment to the Service Order increased the value of the work to $1.38 million, and provided for contractual coverage up until 24 December 2004. The ANAO notes that the first two amendments were also signed after work had been undertaken, on 8 October 2004 and 2 December 2004 respectively.

2.16 In addition to the Service Order put in place to deliver programme management activities for the SDSS Get Well activities, the ANAO noted that Contractors contributing to SDSS Get Well outcomes were undertaking work in June 2004, even though their contracts to do so had expired. This necessarily exposed the DMO to unquantified risks, for the time work was being undertaken for which no contract existed.

Enhancements Using Existing Funding

2.17 To complement the SDSS Get Well Programme, Defence and the DMO are currently undertaking several parallel initiatives, which aim to improve overall SDSS systems performance. Two of the key Projects affecting the improvement of SDSS include the rectification of the Julian Date issue and addressing stores and equipment that are Not In Catalogue. While not included within the scope of this audit, other areas that Defence and the DMO have highlighted for improvement include remediation plans dealing with Stores Accuracy, General Stores Inventory Pricing and Accounting, Supply Customer Accounts and Stock Holding Controls.

Julian Date Issue

2.18 The current SDSS *version 4* product is a version of a MIMS operating system, the use of which has been extended by Defence through a significant number of enhancements.

2.19 In 2000 MINCOM made public an issue with the way in which some parts of the MIMS operating system managed dates,[37] known more broadly as

[36] The Proposal and Procurement Approver submission for this work was signed on 24 September 2004, some two months after work had been undertaken against the requirement.

[37] Via its 'MIMS Year 2000 (Y2K) Readiness White Paper' dated 3 December 1999.

the "Julian Date Impact".[38] In the case of SDSS, the original system provided for a system life of 9 999 days from the time it was implemented, after which an internal counter would effectively roll over to four zeros. Without remediation, this aspect of the system was expected to adversely impact on SDSS operations from 18 May 2007.[39]

2.20 Defence assessed four potential approaches to managing the issue:

- **Upgrade the current system operating environment to Ellipse.** This option took advantage of the date functions within the Ellipse product, which have been upgraded to use a full date format (eight digits) and are not subject to the 2007 Julian Date Issue.
- **Reset the reference point for the date counter.** This option would take advantage of the number of unused days in the Julian Date counter, given that Defence started using the system in 1990 and the Julian date counter commenced on 1 January 1980, and would thus extend the useful life of the system by 10 years.
- **Modify the MIMS/SDSS system application software to be able to accommodate the date rollover.** This is analogous to the approach taken by a number of organisations to address the Y2K issue. In practice, many organisations (including Defence) found this to be a complex and expensive approach, given the complexities of the application systems, even though the basic concept is quite simple.
- **Apply the full suite of date related changes from the Ellipse version to the older MIMS 4.3 baseline.** The software supplier considered this to be a significant task, based on the data accumulated from the Ellipse development process, and the actual effort involved in upgrading all date-related processing in the Ellipse product.

2.21 The software supplier recommended the second option (resetting the date counter reference point) as the most appropriate option in terms of least time, risk and overall cost to resolve the Julian Date issue.

2.22 In August 2005, Defence advised the ANAO that two parallel solutions to this problem were being pursued. The first solution centred on the upgrade of SDSS to Ellipse, for which the Government gave first pass approval in June

[38] Defence advised the ANAO that it has no record of any advice being formally provided under the provisions of the extant systems support agreement with MINCOM.

[39] SDSS Julian Date Risk Assessment notes that MINCOM has estimated that the Julian Date issue impacts a maximum of approximately 10 per cent of the date fields.

2005 as part of Joint Project 2077 Phase 2B. However, delays in developing a business case for second pass approval for this phase reduced the likelihood that a solution will be fully implemented by May 2007.

2.23 Consequently, the DMO advised the ANAO that, in consultation with the software supplier, a technical fix for the date processing function in the current software would be developed. Defence advised the JCPAA in June 2005 that the software supplier was prepared to do the fix on the core software at its expense, and had agreed to do so.

2.24 The ANAO reviewed the costs and outcomes associated with implementing the technical fix associated with remediation the SDSS Julian Date issue. In August 2005, the DMO estimated that the costs to implement the software fix through SDSS would not exceed $2 million. Defence advised that internal Defence resources were not costed, but that the total cost of the remediation Project was $0.798 million, paid to the software developer to implement the technical fix, supplied free of cost to Defence. The tested fix was rolled out to the operational system on 21-22 April 2006.

Not In Catalogue Project (Remediation Plan S11)

2.25 Defence policy mandates that all assets and inventory that are deployable, or support an operational capability be recorded and tracked in SDSS. The policy requires purchased items to be catalogued in SDSS, thereby facilitating efficient logistics operations and supporting accurate and effective accounting. In some cases, organisational units within Defence and the DMO are purchasing items via the ROMAN financial system without recording the information on SDSS. Defence note that these items may not have been accounted for correctly within Defence's financial statements, or not subject to the approved Defence stocktaking regime.

2.26 Defence has advised that items Not In Catalogue are managed and tracked locally with no central visibility. The business case associated with the Not in Catalogue Project indicates that a culture has been developed where it had become acceptable for Defence personnel to avoid following correct procurement procedures. The business case noted that this situation may occur as a result of a lack of compliance monitoring in combination with the following circumstances:

- The item is required immediately and there is insufficient time to complete the cataloguing process;

- Items transition from DMO Assets Under Construction as part of a capital Project to "in service" and are not entered into SDSS, but are managed off line;
- Units believe the items are more efficiently purchased and managed locally and take the initiative without recording their actions on SDSS; and
- Units have not obtained the necessary central approval to purchase the item but believe the item is required, utilising local resources.

2.27 By not recording items in SDSS with a unique category North Atlantic Treaty Organisation Serial Number, these items do not appear in the Defence Central Catalogue of inventory (CENCAT), and are known as Not In Catalogue Items. By definition the quantity and value of these items is unknown, however, a contracted Defence report released in September 2005 estimates that the potential value of Not In Catalogue items is $761 million.

2.28 Defence has instituted a Remediation and Prevention Plan to address the Not In Catalogue issue, known as S11. The S11 Remediation Project implementation strategy was developed in early 2006. The DMO advised the ANAO in August 2006 that this implementation strategy is a two stage process, based on remediation, and prevention:

- a baseline count of the Not In Catalogue items commenced in July 2006 and is scheduled to be completed as soon as possible, however, Defence has stated that this should occur no later than December 2006; and
- the remediation of Not In Catalogue items to ensure they have received appropriate financial treatment and have been properly entered into SDSS is to be completed by June 2007.

2.29 The DMO also advise that preventative strategies are being finalised, and will include the review of policy and procedures; communication, education and training; and enhanced monitoring and compliance testing. The first round of training was planned to commence in July 2006.

2.30 The DMO Business case indicates that the costings for the S11 Project include third party assistance and resources at a total cost of some $9.55 million. The ANAO notes that some $2.5 million, or 27 per cent of the total Project cost, is for the employment of specialist resources, which include original equipment manufacturers, to support Defence and DMO efforts with assessing and pricing items already acquired, but not recorded. The DMO advised the ANAO in August 2006 that approved expenditure amounted to

$3.9 million, and costs for remediation activities will be finalised following the baseline counts, but are currently estimated at $5.65 million.

3. SDSS Remediation Activities

This chapter outlines the activities undertaken to remediate the Standard Defence Supply System under the Get Well Programme, and other complementary activities.

Get Well Activities

Business Process Performance Outcome Requirements

3.1 Following the delivery of SDSS *version 4* in July 2003, the DMO identified a negative impact on the operation of SDSS and the integrity of financial management information available from the system. The scope of the Business Process Compliance Project specified a requirement to review what the DMO identified as the high priority business processes of the SDSS operating environment, which were the processes associated with acquiring and sustaining a capability.[40] The DMO sought to ensure, in a broad sense, the Defence Supply Chain business processes were capable of supporting the supply chain as designed via a Business Process Compliance activity. This activity was funded to provide a review of 13 high priority business processes,[41] the outcomes of which included reports providing recommendations for system management improvement requirements.[42]

3.2 The aim was to identify the underlying issues and risks to the operation of the system, and to determine appropriate recommendations for improvement. The specific elements of the processes that were reviewed, for which risks and issues were identified, are represented by Figure 3.1. The Business Process Compliance Project was not scoped to deliver any planning, or implementation associated with improving the risks or issues identified in the report. This element of the Get Well Programme was afforded an extended schedule, to March 2005, and was funded and managed as an In Service Support activity.

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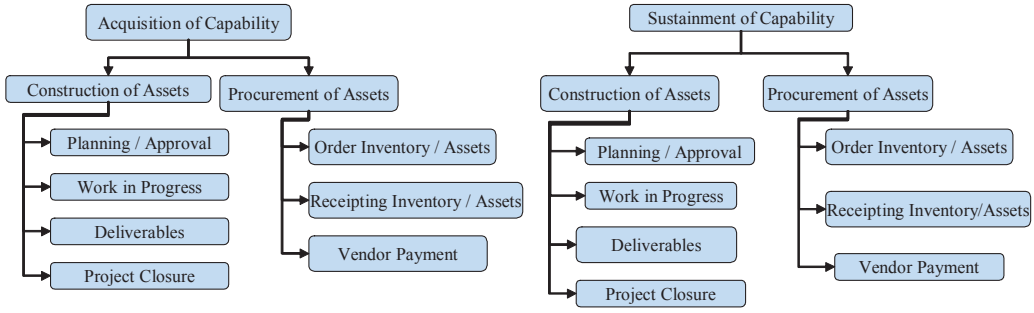
[40] The Business Process Compliance Project was to review two high priority SDSS-related operating segments within several major functional areas of Defence, to identify the underlying issues that were impacting on process compliance and affecting the integrity of financial reporting data.

[41] The estimated cost of each report was $0.08 million for each of the 13 reports.

[42] Specific business processes earmarked for improvement included: stocktaking, codification (both stocktaking and codification business process reviews were completed prior to the submission of the Get Well Business Case), repair, Planning Approval/Work in Process, Deliverables/Closure, Install/Uninstall, Ordering Goods, Receipt of Assets, Receipting Stock, Vendor Payment, Issue/Consume, Requisitioning Stock, Disposal of Stock, Stock Level-Lifecycle, Contract maintenance.

Figure 3.1

Process Areas Reviewed For Acquiring and Sustaining an Asset



Source: DMO

3.3 The Project outcomes provided a series of reports undertaken by consultants, from which there were 132 recommendations, covering the full breadth of the Supply Chain activities relating to SDSS. The reports focused on system, training, process and physical improvements. The DMO accepted 118 of the recommendations for management by designated, responsible officers throughout the Defence organisation. The DMO did not track the expense associated with implementing the business process controls.

3.4 In March 2006, the DMO noted that non-compliance with business processes represented a key factor in the DMO being unable to meet its reporting obligations, and this directly impacted on the ability for the DMO to recognise revenue for assets procured, and then sold to Defence. Key Performance Indicators were developed by the DMO to measure the performance of SDSS financial business processes. These indicators were developed to assist with monitoring the performance of the DMO divisions, and to provide some understanding of the reliability of the DMO financial information.

3.5 Table 3.1 shows that the level of compliance, in this regard, has been less than satisfactory.

Table 3.1

DMO Business Process Compliance Measurements

Performance Indicator	Indicator requirement	Level of Compliance (per cent)	Impact Statement
Input of ROMAN Purchase Order Reference on SDSS Workshop Order.	Compliance is essential for financial reporting. Poor performance impacts on the ability to rollout Project assets financially in a timely and accurate manner.	9	The DMO rate the level of compliance as extremely poor. The level of compliance severely restricts the ability to process capitalisation transactions and rollout assets in a timely manner.
Use of Project type Workshop Orders with Project Receipts.	Where an item is procured through a ROMAN Project module, it must be rolled out financially as assets under construction. Similarly, where an item is procured using sustainment funds it must be manually capitalised.	45	The DMO's inability to capitalise items in a timely and accurate manner compromises the performance of their reporting obligations.
Project Rollouts to Project Receipts in SDSS.	This indicator illustrates an exposure to poor, untimely rollouts of equipment receipted in SDSS, and provides a guide as to the level of communication between Project and sustainment staff when receipting Project equipment.	34	The results indicate that only one third of identified Project receipts in SDSS have been rolled out of Projects this financial year.

Source: CFO DMO 8 March 2006

3.6 In March 2006, the DMO reported that, in relation to compliance with the required business processes:

> The results achieved to date shows a significant amount of effort is needed to ensure the divisional staff are aware of, and are complying with mandated supply chain policy. A greater emphasis on performance of these key processes is required to ensure that the appropriate level of information is provided for the Chief Executive Officer to discharge his accountability.

SDSS Data Quality

3.7 The additional funding sought for improvements to SDSS Data Quality was used to investigate and assist in the remediation of high priority data issues, in an effort to improve the accuracy of the system in its ability to reflect stock holdings at Supply Customer Accounts and on the shelf. The extent of

the improvement was not specified within the business case developed to specify the requirements of the Get Well Programme. The business case noted that the DMO sought to engage staff with expertise in data management, representing industry best practice, to map business processes to data architecture, in addition to developing software that identifies data corruptions, in keeping with the underlying system software functionality and data architecture. The $2.42 million cost basis for this activity comprised a time and material component, involving 18 contractors, and two DMO staff members.

SDSS Get Well Financial Capability Gaps Project

3.8 As part of the implementation of SDSS *version 4*, a new set of financial reporting functionalities were to be delivered, including two sets of functional enhancements to the system; financial classification and accounts default. This functionality was complemented by the addition of three specialised reports aimed at updating ROMANs general ledger, inventory movement and fixed asset movement functions. After implementation, the functionality was judged by the DMO as being deficient. Defence documentation indicates that, in March 2004, the DMO sought to rectify the system through the Financial Capability Gaps Project. This Project was initiated to gain a deeper understanding of the outstanding deficiencies and to ensure the rectification of the three functionalities.

3.9 The Financial Capability Gaps Project included 10 user requirement statements, broken down into 25 specific actions. These addressed changes to existing reports, new exception reports, new management reports and various new functionality enhancements.

3.10 DMO documentation indicates that, after conducting a test programme, the Financial Capability Gaps Project delivered the revised functionality during July 2004. The Project outcomes were delivered into production prior to being certified as meeting DMO Materiel Finance Division Business requirements. This necessarily raised the risk profile associated with delivering the Project's outcomes. The ANAO identified that the process employed for delivering this programme would have benefited from applying standard Project management methodology by first assuring that the designed outcomes met with the end users' requirements, before implementing them in service.

3.11 The decision was taken to execute this work from within the DMO Materiel Systems Division operational budget. Although the Financial

Capability Gaps Project was managed under the SDSS Get Well umbrella, it was considered by the DMO to be an extension of the SDSS Upgrade Project. A real cost increase of $1.212 million to the SDSS Upgrade Project was sought to provide an audit trail for additional costs to complete outstanding deliverables to the SDSS Upgrade Project ($0.687 million on the Financial Capability Gaps Project in 2003–04 and $0.525 million on MINCOM cost in 2004–05).

SDSS Systems Performance Improvements Project – Mainframe

3.12 The DMO initiated the Systems Performance Improvements – Mainframe Project to address the physical limitations placed on the existing SDSS infrastructure. The Project deliverables predominantly related to improving system speed, and the time taken to undertake system queries. DMO documentation indicates that, following the delivery of the Project outcomes, an improvement was achieved in the following areas:

- Reduced resource consumption (reduced CPU processor time consumption);
- Increased capacity headroom (increased excess capacity);
- Improved application response times (including the use of the new Graphic User Interface screens);
- Lower batch turnaround times for larger data base queries;
- Higher application throughput capacity (simultaneous jobs);
- Greater application stability (contention between and within online batch transactions);
- Reduced application failures (abnormal terminations, timeouts and deadlocks); and
- Introduced performance management and monitoring functions and reports.

3.13 The DMO advised the ANAO that enhanced application times were achieved, independent of the nature of the application client presentation layer ('Graphic User Interface' or traditional 'Green Screen'). While the majority of the outcomes are positive, and DMO analysis shows that the Graphic User Interface has slightly better cycle times than the 'Green Screen', in terms of milliseconds, the ANAO notes that, irrespective of the improved application response times, none of the SDSS users encountered throughout this audit indicated a preference for using the Graphical User Interface screen, opting

instead for the older 'Green Screen' option. The end users advised the ANAO that the new screen format did not offer the same efficiency, in terms of operator speed, as did the older screen format.[43]

3.14 Defence documentation indicates that the original Project budget was some $505 700 with an actual spend of $441 525 representing a budget underspend of some 13 per cent.

SDSS Systems Performance Improvement Project – Infrastructure

3.15 The primary objective of the Infrastructure component was the establishment of an optimised network infrastructure that would improve performance of the SDSS application. The Project was required to address elements of system responsiveness that were identified as deficient following the *version 4* upgrade.

3.16 From an infrastructure perspective, the DMO noted that the objective of the Project could only be achieved by the rectification of SDSS printing issues and the introduction of a repeatable performance measurement process. Notwithstanding this requirement, the SDSS 'end of Project' report states that, due to prohibitive cost constraints, the intention to develop the performance measurement process was not achieved.

3.17 The Project also addressed systems stability, minor capital investment and some small configuration changes. This phase of the Project included 18 SDSS site visits and corresponding site reports. Of the 18 sites visited, 11 required remediation. At the completion of fieldwork, remediation for all but one of the sites had been completed, that being Royal Australian Air Force (RAAF) Base Amberley.

3.18 Of the Project outcomes, three significant changes were reported to have produced considerable performance improvements for SDSS users, and addressed the majority of Project goals. The three changes were:

- the caching location for SDSS system information was moved to the local drive, decreasing dependence upon the network for bandwidth, and increasing system responsiveness;

[43] The ANAO notes that, even though the Graphic User Interface is the preferred method of normal access to SDSS, and use of this screen was an intended outcome of the Get Well Programme, the use of the Green Screen entry method contains the same level of security access and input integrity is applied to either screen.

- printer reboot automation was implemented, whereby printers automatically reboot when an error message is diagnosed. This was assisted by the provision of 300 new printers to 52 sites around Australia, with 28 of these sites having completed installation at the time of completion of audit fieldwork; and
- the Defence Cargo Visibility System *build 105* was developed,[44] enabling Cargo Visibility System and SDSS to run simultaneously.

3.19 The Project employed the use of contracted service providers, with an approved budget of $3.188 million. The Project has expended $1.413 million ($1.363 million capital and $0.05 million on various services) and has written back $1.155 million. The DMO advised that the $1.155 million hand back of unused funds was primarily due to savings achieved by leveraging off regionally supplied staff and resources to install the remediation equipment, and the Project management costs were paid for by a separate budget. The ANAO notes that, system delivery delays were attributed to the choice to use local staff at various sites to effect the roll out of the required system improvements.

SDSS Get Well Change Management and Communication Project

3.20 Following completion of the *version 4* upgrade several primary elements of the system environment were identified by the DMO as not meeting user requirements. These user concerns highlighted a need for increased management and communications regarding issue resolution and expected changes to the software. The Change Management and Communication Project was implemented to address these issues, and did so on a number of fronts.

3.21 Initial steps taken to address this concern included the introduction of communication templates, branding and key messages to provide consistency and legitimacy to the Project. This included the allocation of a Project 'Champion' (senior officer).

3.22 Other Project outcomes included the provision of regular communication, via newsletters and 'infograms'. These focused on what the Get Well Project was trying to achieve and included the management of user expectations through increased feedback. To complement this, the Project team

[44] The Cargo Visibility System is Defences' current automated logistic information system. It operates within the ADF logistics distribution environment (through Freight Distribution Centres) but provides an incomplete In Transit Visibility functionality.

also introduced a set of routine stakeholder reporting activities and implemented the use of a traffic light reporting system to assist ongoing project reporting to senior management.

3.23 The Project also developed links between user sites and support and training facilities. Over the length of the programme working relationships were developed between the Change and Communication Team and Defence Materiel Systems Training, providing a conduit to solving some SDSS sites training issues.

3.24 The costs associated with this activity included: 5.5 contracted staff ($0.724 million); two consultancies (specific site consulting, at $0.106 million, and strategy and branding, at $0.093 million); as well as travel, and materials costs ($0.78 million).

Software Maintenance and Development Project

3.25 SDSS user reports indicate that software deficiencies and/or defects were the major issues affecting user uptake of SDSS *version 4*. The Software Maintenance and Development Project was tasked to deliver mechanisms to provide greater visibility of issue progression through to resolution and deliver supply and equipment management reports. In addition, the requirement for an agreed working process for the prioritisation, classification and remediation of software defects was required.

3.26 Issues covered by the Project included a review and modification of the incident, problem request and user requirement statement flow processes, and utilising online tools to verify the status and resolution of issues. This Project also looked at improving the visibility of the defect reporting cycle, with the report published twice weekly on the Supply Chain Systems Programme Office Website.

3.27 The DMO end of program report noted that the following key outcomes were achieved:

- The supply chain incident, problem reporting and user requirement statement flow processes were reviewed, and modified to provide an online SDSS incident and problem reporting report to verify status, closure and customer follow up of incidents and problem report resolution;
- A key performance indicator was developed regarding user requirement statements and problem report packets by including indicative delivery dates against problem reports;

- A redesigned dashboard 'SDSS incident and problem report' report was developed to depict the status of work being undertaken against SDSS *version 4*.

3.28 The DMO advised the ANAO in August 2006 that:

> the outcome was an enhanced level of user access to key metrics regarding the operation of SDSS and the rectification of software and database defects. This enabled an increase in confidence in the day to day operation of SDSS and its problem report resolution.

SDSS Information Technology Controls Framework

3.29 The SDSS Information Technology Controls Framework documents supply chain management functions and the underlying and supporting Information Technology controls.[45] The intent of the Framework is to enhance the operation, reliability and information quality of the supply chain processes. Implementation of the framework occurred in October and November 2005, and Defence note that there are still gaps in their compliance.[46] To that end, the DMO initiated a self assessment tool, released in February 2006, which incorporates all control activities documented in the December release of the framework.[47]

3.30 The ANAO reviewed and validated the self assessment report following the release of the tool, which revealed that of the sites selected to

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[45] There are 145 controls relating to SDSS purchasing functions within the SDSS Information technology control framework. Controls cover the full range purchasing functions including: Purchase Orders are only placed for approved requirements (16 controls); Accurate entering of Purchase Orders (17 controls); Purchase Order processing (7 controls); Accounts Payable reporting accuracy and interface processing (16 controls); Disbursements only made for the goods and services received (7 controls); Accurate recording and processing (18 controls); and Controls covering management of the Master Supplier Register, Foreign Military Sales processing and Forward Purchasing Agreements. The Framework was developed and first published on the intranet on 21 October 2005

[46] The DMO advised the ANAO in August 2006 that, following the ADF posting cycle and operational deployment rotations, additional mentoring was provided in February 2006, and that implementation teams visited around 40 sites across Australia, briefed more than 300 Business Managers, and provided individual mentoring to 1 500 SDSS users.

[47] The Contractor Approver Submission for the SDSS Controls Framework Site Analysis, Mentoring and Remediation work, to the value of $130 000, was reported on 11 May 2006 by a DMO delegate to be in breach of the Commonwealth Procurement Guidelines. Paragraph 8.62 of The Commonwealth Procurement Guidelines 2005 state that, Direct Sourcing must not be used for the purposes of avoiding competition, or to discriminate against any domestic or foreign business and in all such circumstances, the general procurement policy framework still applies, including the requirement to achieve value for money. Defence advised the ANAO in August 2006 that, the contract approval submission referred to was for an extension to an existing service which had been subject to multiple competitive quotes against an approved Departmental Standing Offer one month previously.

provide feedback, there were many areas where controls were not, or had not been implemented (see Table 3.2).

3.31 The ANAO reviewed the outcomes of the contracted SDSS Controls Framework, dated June 2006, and notes that over the period in which the framework has been rolled out there had been a concerted effort to apply the framework, but there remained continuing challenges associated with its embodiment in Defence and the DMO.

3.32 Table 3.2 indicates that, for the key roles associated with purchasing, inventory management, asset management, and information and security, the June 2006 Defence Joint Logistics Command report identified non-compliance with the required controls (controls not in place) that ranged from 11 per cent for information security,[48] to 44 per cent for asset management.[49]

Table 3.2

Whole of Defence SDSS Information Technology Controls Framework – Assurance Review June 2006

Control Area	Total Number of Controls	Compliance Status (per cent)			
		Controls not in place	Controls said to be in place but testing confirms otherwise	Controls said to be in place – compliance not tested	Controls implemented and tested
Inventory Management	931	37	20	8	35
Asset Management	441	44	16	14	26
Purchasing	296	28	19	12	41
Information Security	444	11	7	13	69

Source: Defence Joint Logistics Command report on SDSS IT Controls Framework June 2006

3.33 Subsequent to the ANAO assurance review (see Table 3.2), units conducted further self-assessment compliance checks, and the DMO advised that a contracted review of those compliance checks was undertaken across the

[48] The DMO report notes that there is a lack of awareness of control requirements.

[49] The DMO report notes that there is a lack of human, or physical resources, and a lack of awareness of control requirements contributing to these shortcomings.

50 key units they assessed as 'material', based on value and volume. The DMO advise that this provided Defence with a baseline of compliance (see Table 3.3).

3.34 The DMO advised the ANAO in August 2006 that:

> Units have provided regular compliance progress updates since the Quality Assurance Review activity and have demonstrated considerable progress.

3.35 In review of the information at Table 3.2, the ANAO separated the individual performance metrics from the validated June 2006 reports across Defence, Army, Navy, Air-Force, Joint Logistics Command, and the DMO, and has summarised the findings, which are represented on the basis of the respective organisations:

- For the whole of the Department of Defence, the principal compliance issues are in purchasing, inventory management and asset management. The key issues impacting on compliance across all units tested included a lack of awareness of control requirements, a lack of resources, and recent implementation of control activities resulting in an inability to test compliance.
- For the DMO, the principal compliance issues are in purchasing, inventory management and asset management.
- For the Joint Logistics Command, the principal compliance issues are in purchasing, inventory management, and asset management.
- For Army, the principal compliance issues are in inventory management, asset management and security.
- For Navy, the principal compliance issues are in inventory management, asset management.
- For Air Force, the principal compliance issues are in inventory management and asset management.

3.36 In November 2005, the Joint Logistics Command proposed that, in an effort to provide for a robust compliance and assurance capability across Defence and the DMO, a Defence Compliance and Assurance Framework should be established to, inter alia, confirm compliance with Defence policy and practice, and monitor progress against stocktaking programmes.

3.37 In March 2006, the Defence Committee agreed to implement a Defence Compliance and Assurance Framework, and in doing so, provided approval for resources to implement 178 additional full time staff positions, 116 in 2006–07 (for a three year period) and 62 in 2006–07. The initial 116 positions are

considered to be an interim measure. The 62 positions approved thereafter are to be absorbed within current Group financial allocations, with the full absorption of the total 178 positions by the Defence Groups being reviewed in three years time. The Defence Chief Finance Officer is to receive progress reports every six months, commencing 30 June 2006.

Table 3.3

DMO assessment of Information Technology Controls Framework Compliance – August 2006 (not reviewed by the ANAO)

Control Area	Number of Key Controls (Quantity)	DMO Contracted Quality Assurance Review Compliance Level Assessment in June 2006 (per cent)	August 2006 Defence Self Assessed Compliance Level (per cent)
Inventory Management	46	43	80
Asset Management	30	41	78
Purchasing	35	53	79
Security	15	82	95

Note: This table is not comparable with Table 3.2, and has not been reviewed by the ANAO.

Source: DMO 25 August 2006

4. Supply Chain Outcomes for Capability

This chapter reviews SDSS as a key element in terms of providing required outcomes for end users.

Data Quality - Stock Pricing and Quantity Management

4.1 In September 2003, an evaluation of ADF logistics support to operations in the Middle East was undertaken with a view to informing future logistic capability development. Amongst other things, the report noted that Repairable Items are critical to operations, and that they require close management to ensure they are turned around in a timely manner. During recent deployments to the Middle East Areas of Operations, where SDSS *version 3* was being used, rotables were found to have been in short supply, and not as well managed as they might have been.[50]

4.2 The scope of the Get Well Programme included a provision to continue the work of the Data Quality Project. A major outcome of the Project was the intention to implement an SDSS Data Management Framework, identifying the controls required to protect the integrity and identify and correct invalid data, identify and remediate the underlying causes, and remove dated or redundant data. At the closure of the Get Well Programme, the data quality initiatives being undertaken as part of the Programme were not completed, and were transitioned for management by the DMO Supply Chain Systems Programme Office sustainment environment.

4.3 The ANAO reviewed stock management practices at two sites across Defence, Her Majesty's Australian Ship (HMAS) STIRLING in Western Australia, and the Defence National Storage and Distribution Centre at Moorebank in Sydney. The primary focus of the review was to investigate how the remediated Standard Defence Supply System facilitates the management of high value, Repairable Items that had been placed in quarantined storage because there was doubt over their status, requiring further investigation. The ANAO notes that the majority of items sampled at HMAS Stirling had been

[50] The report notes that planning advice should have, but failed to advise the setting of tighter turnaround times for short supply rotables and the requirement for positive management of the return pipeline for unserviceable rotables. The report found that repairable items are expensive, often in short supply, and need more effective management. The report recommends a shift in culture to appreciate their critical nature, particularly in cases of an extended supply pipeline.

issued and subsequently returned to quarantine storage from operational units as unserviceable stock.

4.4 The ANAO undertook a review of 19 high value items held in quarantine storage at HMAS STIRLING. It also undertook a 100 per cent stocktake of a randomly selected quarantine storage bin at HMAS STIRLING and four high value quarantine storage bins at the Defence National Storage and Distribution Centre, Moorebank. In total, the ANAO sampled some $6.1 million worth of quarantined stock. Table 4.1 represents the 19 high value items selected at HMAS STIRLING, which included a range of different stock codes totalling some $2.82 million. The bulk of Objective Quality Evidence (OQE) related items are from the COLLINS Class spares holdings. Defence advise that requirements for OQE were revised, and upgraded after many of the initial buy for COLLINS Class items were purchased. Many of the items surveyed have been quarantined on subsequent issue, as they did not comply with the upgraded OQE requirements.

Table 4.1

ANAO Sample of high value repairable items held at HMAS STIRLING - May 2006

Item	Time Held in Quarantine Storage (months)	Reason for Quarantine Storage	Reported Item Value
Rectifier Assembly, Metalic	19	No System Description	$400 890
Antenna Subassembly	30	No OQE	$354 000
Bearing Sleeve	53	No OQE	$240 286
Bearing, Sleeve	42	No OQE	$240 286
Cooler, Fluid, Industrial	23	No OQE	$191 000
Panel, Control, Electrical-Electronic	40	No OQE	$161 905
Circuit Breaker	42	No Stock Number	$151 217
Controller, Motor	7	No OQE	$134 193
Motor, Hydraulic	13	No OQE	$108 454
Simulator, Sonar Target Signal	11	No OQE	$105 556
Window, Sonar	19	No System Description	$95 778

Item	Time Held in Quarantine Storage (months)	Reason for Quarantine Storage	Reported Item Value
Controller, Motor	2	No OQE	$95 260
Control, Fuel, Main	5	No OQE	$89 963
Insert, Flexible Coupling	20	No System Description	$86 815
Switch, Rotary	19	No System Description	$77 043
Switch, Rotary	19	No System Description	$75 592
Rear Door Assy, Stbd	42	No OQE	$71 802
Rear Door Assy, Port	19	No System Description	$71 090
Transformer, Power	23	No OQE	$68 099
	Average 24 Months		**Total** $ 2 819 229

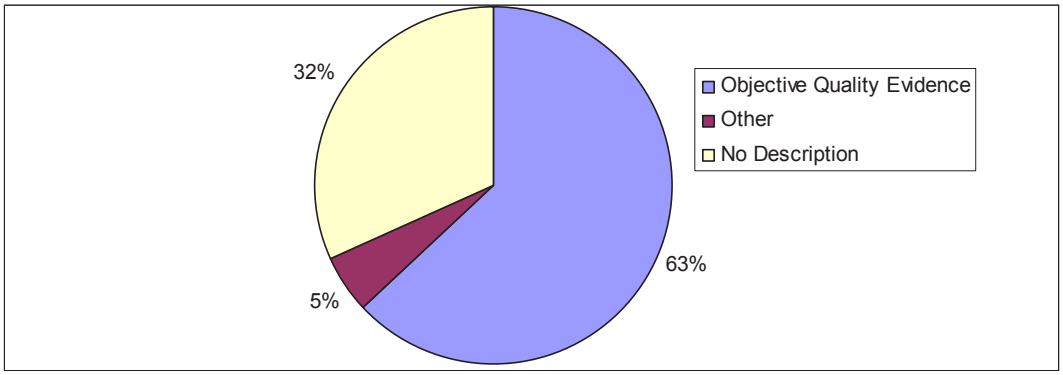
Source: ANAO analysis of DMO data

4.5 Figure 4.1 shows that, of the high value items sampled by the ANAO at HMAS STIRLING, 63 per cent of items are held because there is a lack of required test information (OQE), 32 per cent are held for an unidentified reason and 5 per cent for other reasons. The DMO advised the ANAO in August 2006 that it had instituted a plan to remediate all submarine related Objective and Quality Evidence deficiencies. The commitment for remediating the submarine related OQE deficiencies amounts to $330 000 for the 2005–06 year, in addition to labour provided by the through life support prime contactor via their through life contract for submarine repairs and maintenance, and charged to the DMO.

4.6 Of the sample, the average time that items had been held in quarantine storage was approximately two years, some dating back to December 2002. The DMO advised the ANAO that the requirement to deliver OQE for stores supplied via the through life support contractor is a relatively new requirement, and when the submarines were accepted, there was no requirement for the prime contractor to provide OQE for equipment they supplied as being fit for purpose.

Figure 4.1

ANAO analysis of reasons high value stock has been quarantined at HMAS Stirling: May 2006

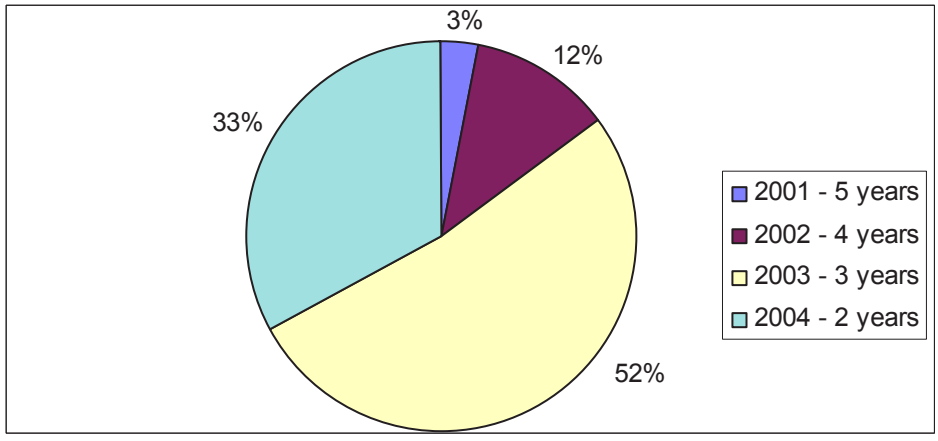


Source: Source: ANAO analysis of DMO information

4.7 The ANAO also undertook a stock take of one randomly selected quarantine storage bin at HMAS STIRLING. The bin selected hosted items with 60 different stock codes, the value of which was reported as $1.4 million. The ANAO noted that the average time that these items had been held in quarantine storage was approximately 2.5 years, with some items dating back to October 2001. Figure 4.2 illustrates that two-thirds of items had been held in the quarantine storage bin for a period of three years or more.

Figure 4.2

ANAO analysis of quarantined stock holdings in a randomly selected bin at HMAS Stirling – May 2006



Source: ANAO analysis of stock take information relating to a randomly selected quarantine storage bin at HMAS STIRLING – May 2006

4.8 The ANAO also sampled four high value quarantine storage bins at the Defence National Storage and Distribution Centre at Moorebank in Sydney. The sample comprised of four separate stock codes, which comprised 35 individual items, with a combined value of $1.9 million.[51] The ANAO noted that the average time the item was in quarantine storage was approximately 14 months, some dating back to December 2004. In August 2006, the DMO advised the ANAO that the items had exceeded shelf life and, while being capable of re-life, this process was given low priority given that there was ample stock on hand.

4.9 The ANAO reviewed Defence records in relation to the COLLINS Class Systems Programme Office costs associated with retesting Navy stores for 2005-06, and noted that there was budgeted cost of $330 000 associated with retesting items for which no OQE existed.

4.10 The ANAO was advised by the DMO in August 2006 that the centralised support agency within the DMO responsible for ordering stock for Navy, (the Logistic Support Agency – Navy)[52] actively manages the reasons, value, and amount of stock that is returned to warehouses for storage, including stock returned by end users for quarantine storage, having been delivered from suppliers in a deficient state. The ANAO was also advised by the DMO in August 2006 that Item Managers review and assess the items and decide on rectification action, and that the Logistic Support Agency – Navy has one person whose primary task is to facilitate resolution of discrepant items.

4.11 The DMO Navy Logistic Support Agency advised the ANAO that, from February 2006, they have been tracking the resolution of items for which they have management oversight, and have been returned to the Joint Logisitics Unit Western Australia office as discrepant stock. During that period, of the 3 460 discrepant items held at the Joint Logistic Unit Western Australia facility, 495 were the responsibility of the DMO Navy Logistic Support Agency to manage. By mid May 2006, the total had been reduced to

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[51] The DMO advised in August 2006 that their records indicated that the combined value of the items in question was $430, not $1.2 million. The audit evidence held by the ANAO was provided by Defence, from the Defence systems, and the ANAO analysis reflects the value of the items as reported by these systems to be $1.2 million.

[52] The DMO Logistic Support Agency – Navy is funded to $241 million in 2005–06 to provide integrated systems management and support for Systems Programme Offices, Royal Australian Navy units and nominated ADF elements.

2 540 items, of which 311 were the responsibility of the DMO Navy Logistics Support Agency to manage.[53]

4.12 The ANAO considers that Defence may be able to reduce the costs associated with retesting discrepant stock for which no OQE exists, by turning the stock around within available warranty periods, where they exist, thereby claiming the costs associated with retesting requirements against the warranty. In addition, Defence may benefit from co-locating the responsibility of ordering and paying for stock with the responsibility for claiming on warranty conditions, for Navy Stores, within the Navy Logistic Support Agency.[54]

Recommendation No.1

4.13 The ANAO recommends that Defence and the DMO assign responsibility for, and take appropriate steps to ensure that, items returned as defective to Defence warehouses under warranty are reviewed, and where appropriate, repaired by the supplier at no cost to Defence and the DMO.

Agency response

4.14 Agreed. DMO is managing this in accordance with the process proposed by the ANAO.

Defence National Storage and Distribution Centre Testing

4.15 The ANAO reviewed the records of some 2 400 items listed as 'discrepant' at the Defence National Storage and Distribution Centre, representing a total value of some $37 million. Of the items reviewed it was found that some 60 items, at a total value of some $230 000, were placed in the discrepancy category because they were associated with unauthorised

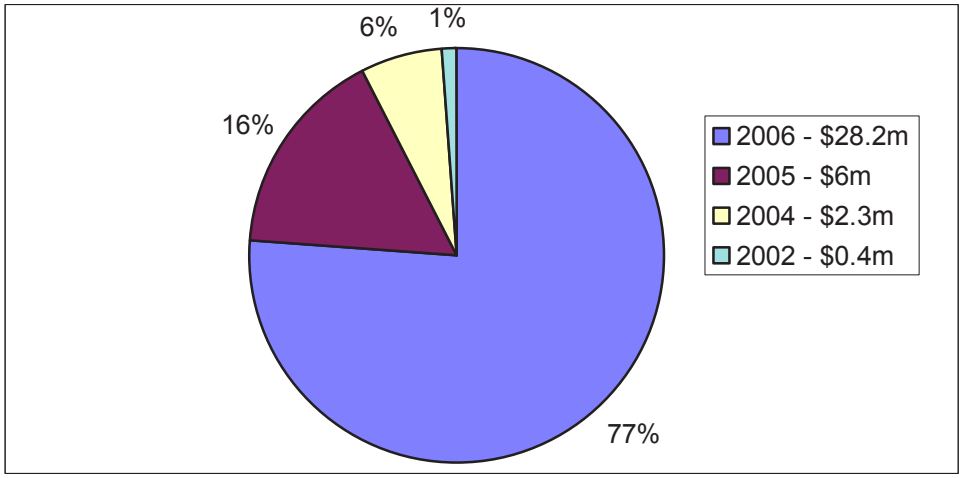
[53] Of these 311 items, 209 were being held because they did not have the correct objective quality evidence accompanying them at the time of issue, 37 were held as items that were over supplied, 20 for other problems, 10 were unable to be identified, 17 were held because of undersupply, and 21 were being held as an incorrect item against the identification code.

[54] The DMO advised the ANAO in August 2006 that the responsibility for claiming on warranty conditions already rests with the Purchasing Authority, who is the same person responsible for ordering and paying for stock. The ANAO notes that the process for alerting individual Purchasing Authorities that end users had returned equipment that had been found to be deficient and under warranty, was not automated, and desk officers may not be aware of the amount of equipment and stores that had been returned to store for warrantable repair or replacement. Defence advise that any stores returned by end users for warranty repair are subject to separate Defective Item reporting.

purchase orders.[55] The remainder of the discrepant items were predominantly caused by administrative errors, either on the part of Defence or suppliers. The ANAO notes that the majority of items listed within the discrepant category were raised throughout 2006, as illustrated in Figure 4.3.

Figure 4.3

Defence National Storage and Distribution Centre - Moorebank Discrepancy by Year and Value – May 2006



Source: Defence data

4.16 The ANAO further analysed the records of 13 500 items listed as 'in-transit' to the Defence National Storage and Distribution Centre, valued at $61.13 million (see Table 4.2). Of the items sampled, the average time in transit was listed as 104 days, with the longest date listed in transit as nearly nine years. The ANAO notes that several of these items constituted valuable and attractive goods including, radio frequency tuners, tents and underwater equipment.

[55] 'Unauthorised purchase orders' is a term sourced directly from SDSS. Defence advised the ANAO that the term 'unauthorised purchase orders' refers to a processing step within SDSS. Purchase Orders that are classified as unauthorised in SDSS may well have been 'approved' and printed copies of these purchase orders may have been physically signed by an appropriate delegate. Purchase orders cannot be printed unless they have been 'authorised' in SDSS. Defence advised that, for a purchase order to have been sent to a supplier, it must have been 'authorised'. Instances have arisen where orders have been in the process of amendment to reflect updated prices or quoted repair prices when warehouse staff attempted to receipt them. This action will return an error message; 'Order unauthorised', which is recorded on the discrepancy report.

Table 4.2

Value of items in transit to the Defence National Storage and Distribution Centre, Moorebank: May 2006

Time in Transit	Value of Items in Transit ($ million)	Percentage of Total Items in Transit (%)
5 + years	1.97	3.25
4-5 years	0.62	1.03
3-4 years	1.6	2.65
2-3 years	2.3	3.87
1-2 years	3.5	5.85
9 months – 1 year	0.77	1.27
6 - 9 months	0.8	1.33
3 - 6 months	2.9	3.62
0 - 3 Months	46.67	77.17

Source: Department of Defence

4.17 In October 2006, Defence advised the ANAO that while the average time in transit is identified as 104 days, it should be noted that of the 13 500 listed items, 11 626 of these (85.6 per cent) did not exceed the 90 days referred to by the ANAO in Recommendation 2 of this report. Defence note that:

> since the fieldwork was conducted, significant effort has been applied to a number of items in transit, and the oldest item now recorded is less than seven years old, and the second oldest is less than five years old. Secondly it should be noted that 'in transit' is a cumulative data set. Items are continuously requisitioned in SDSS (at a volume of approximately 80 – 9000 per week). All requisitions are issued and in transit at a point in their existence and therefore occupy the 'in transit' state, and based on priority may be within tolerance for 'in transit' for a period. Those that exceed that tolerance are a matter for legitimate investigation.

Recommendation No.2

4.18 The ANAO recommends that, Defence develop a plan to review items that have been listed as 'in-transit' for a period in excess of 90 days, and report on a regular basis to the Joint Logistics Command.

Agency response

4.19 Agreed. The DMO is currently developing additional reporting to manage aged in-transit issues more effectively.

Operational Support Measures

4.20 SDSS is an integral part of the supply chain that provides the spare parts that support ADF operations. The DMO measures the Demand Satisfaction Rates for spare and repair parts, and report the effectiveness of wholesale stock levels and the efficiency of the warehousing system and distribution services.

4.21 The Demand Satisfaction Rate is not a succinct, or accurate measure of the performance of SDSS, as there are many other factors contributing to the supply chain operational characteristics, which include transport, handling, packaging and administrative activities.[56] The measure is a function of the requisitions with required delivery times within a month satisfied in full and on time, compared to the total number of requisitions with required delivery dates within that month.

4.22 A series of Demand Satisfaction Reports were reviewed that related to the ability for the supply chain to meet organisational performance requirements required for the System Programme Offices visited, for the first quarter of 2005, and then for the first quarter of 2006, in an effort to determine if there had been any changes to the overall system performance as SDSS remediation activities took effect. The outcomes of this review are reflected in the analysis of the individual System Programme Offices for COLLINS Class Submarines, FFG's and ANZAC Class Frigates.

4.23 The individual Systems Programme Offices have agreed levels of Demand Satisfaction with the corresponding Force Element Group and Capability Element operational authorities.[57] An inability to meet those levels represents a potential impact on operational capability, which is reported using a traffic light system. The DMO advised the ANAO in August 2006 that Defence notes that Demand Satisfaction Rate is a factor, but not the only Key

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[56] Notwithstanding the criticality of SDSS in the supply chain, the lack of reporting granularity, coupled with an inability to singularly analyse any one cause for performance decay from the data available, precludes the ability to attribute the poor supply chain performance solely to SDSS performance.

[57] A Force Element Group is a grouping of force elements with an appropriate command and control structure for a specified role or roles (for example, the Navy Submarine Group). Within the Major Surface Combatant Force Element Group, the ANZAC Class and Adelaide Class Frigates are separated into two succinct Capability Elements.

Performance Indicator, which would impact on capability, and that while the Demand Satisfaction Rate can represent a potential impact on Operational Availability and appears to have a correlation, it is only one of many factors that impact on availability and does not necessarily translate into real impact on Operational Availability.

4.24 The ANAO sampled reports from the three Maritime Systems Programme Offices, and correlated the Demand Satisfaction Rate delivered for Repairable Items with the reported Platforms Mission Capable for Task assessments. The individual Systems Programme Offices agree specified levels of support, in terms of Demand Satisfaction Rates, which are monitored, and reported on monthly. The success of the DMO to satisfy the agreed levels of delivery are recorded as Green, for a successful delivery against the requirements, Amber for a 10 per cent band underlying the optimal performance, and Red for a less than optimal performance.[58]

4.25 The ANAO found that there is a close correlation between the Demand Satisfaction Rate, and the measure of Platforms Mission Capable for Task, particularly for the FFG,[59] which suggests that a deficient Defence supply chain adversely impacts on Platform Mission Capability.

4.26 The ANAO notes that there are many factors contributing to the measures associated with meeting the stores support requirements for the three System Programme Offices reviewed, however, the ability to accurately predict and order spare parts in anticipation of the use requirements is a large contributor to the probability of successfully meeting the required performance measures.

4.27 The ANAO was informed that the DMO uses a predictive analysis tool, known as the Automated Inventory Management System (AIMS), which takes a series of inputs from the past three years of history, such as known lead times for delivery, shelf life of equipment, and established, steady state use rates, and predicts two years ahead to provide for the use rates for selected items, and recommends purchases to meet these predictions. The outcomes of the analysis, in terms of potentially understocked items, are provided to

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[58] In the 2004–05 COLLINS System Programme Office Service Level Agreement with the Navy Logisitics Support Agency, Green equates to a Demand Satisfaction Rate of greater than or equal to 85 per cent, Amber between 75 and 85 per cent, and Red less than 75 per cent.

[59] In the ANZAC System Programme Office Service Level Agreement with the Navy Logisitics Support Agency, Green equates to a Demand Satisfaction Rate of greater than or equal to 85 per cent, Amber between 75 and 85 per cent, and Red less than 75 per cent.

purchasing staff on a weekly basis. The AIMS system relies heavily on the accuracy of the stock data held within SDSS.

4.28 The DMO advised the ANAO that, the nature of the ships being supported by this system is that they require different levels of support, depending on whether they are older, more mature ships, or newer, recently built ships. Ships that are relatively new, such as newly accepted ANZAC Class ships, suffer new equipment failures, whereas ships that have been operational for a number of years realise traditional wear and tear type requirements. In addition, changed operational profiles will necessarily change the profiles of material use rates. To this end, the ANZAC Systems Programme Office uses a stand alone prediction model, known as the Serviceable Asset Target Level, and liaises with material desk officers to supplement the shortfalls of the AIMS system.[60]

COLLINS Class Systems Programme Office – Inventory Support

4.29 The ANAO reviewed the management initiatives being implemented in the COLLINS Class Systems Programme Office in order to improve the management of submarine related inventory.

4.30 Management of inventory for COLLINS Class submarines initially called for the codification of spares to an operational maintenance level, which, amongst other issues, precluded the development of full assembly parts lists.[61] Defence had intended to utilise the In-Service Support contractor to carry non-codified and Not In Catalogue spares,[62] which were to be acquitted as consumables upon issue. Inventory held by the Contractor has been paid for

[60] The DMO advised the ANAO in August 2006 that Defence does not supplement the shortfalls in AIMS with the use of stand-alone predictive models. The predictive model used by the ANZAC System Programme Office pre-dates the adoption of AIMS by the Logistics Support Agency – Navy, and the model has continued in use to provide integrity of through-life support and to complement the AIMS forecasts.

[61] All the spare parts required for intermediate and depot level maintenance activities were not codified, and were to be supplied by contractors, as required.

[62] The COLLINS Class Systems Programme Office advised the ANAO in May 2006 that Defence does not know the value of Not In Catalogue items held by original equipment manufacturers on their behalf.

by Defence. This inventory represents Defence assets, and is required to be accounted for as such.[63]

4.31 The COLLINS Class Systems Programme Office advised the ANAO that the COLLINS Class submarines have suffered from logistics spares short falls since entering service.[64] In addition, the absence of a comprehensive Assembly Parts List has required an operational spares allowance to be allocated using an Outfit Allowance. The December 2005 COLLINS Class Submarine Inventory management Plan notes that the Outfit Allowance has not been maintained to reflect configuration, or operational changes to the submarines, and this has impacted on the management of the configuration of the spares being held for the COLLINS Class. This has adversely impacted on the ability to remedy defects on the submarines at the Operational Level. [65] In October 2006, Defence advised the ANAO that the Outfit Allowances have been updated based on Original Equipment Manufacturer data.

4.32 The ANAO notes that the COLLINS Systems Programme Office is planning to address the absence of an Assembly Parts List through a Realignment Project, undertaking a 100 per cent codification, and by supplying submarines with an onboard inventory system.

4.33 The COLLINS Class Systems Programme Office report that the failure to maintain an Outfit Allowance that reflects the actual requirements of the operational staff has resulted in a loss of trust in the logistics system by submariners, and has perpetrated a lack of interest in maintaining their onboard accounts. The COLLINS Class Systems Programme Office has initiated a remediation plan to address these issues, which is to be completed by December 2006.

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63 Defence advised the ANAO in October 2006 that, while the specific value of items held by the contractor is not known, the location and quantity held are known, and monitored. In addition, Defence advised the ANAO that items held by the Contractor awaiting installation into ships are held as Assets Under Construction, and that those items that may be held as spares are not clearly identified as such until modifications have been completed. Defence advised the ANAO that progress payments to the contractor represent value of work performed and do not directly pay for any specific items held by the contractor for incorporation into the vessels as part of the upgrade process. Defence notes that, until the spare components have been identified, and specific portions of the progress payments allocated to them, they are not considered by Defence to be Commonwealth property.

64 The ANAO was informed that, in an effort to contain project acquisition costs, a reduction in funding was applied to the logistics support material procured for through life support activities.

65 The COLLINS Class Systems Programme Office remediation plan seeks to address Operational Level support issues, Intermediate Maintenance Level support issues, Depot Level support issues, Inventory Management Issues, management of Objective Quality Evidence required for inventory, management of obsolescence issues, and management of issues associated with the delivery inventory for future systems delivered by the 'Generation' element of the DMO.

4.34 In addition to the COLLINS Class Systems Programme Office initiatives, in October 2005, the DMO initiated a proposal to implement an SDSS compatible Defence Materiel Entitlements System.[66] The proposed system has an identified funding requirement of $0.5 million for the development of a business case, $1 million for further studies into the development of the system, and $7 million for the development and annual support costs through to 2014–15. Initial implementation of the Project, if approved, is planned for September 2006, with Project completion in September 2010.

4.35 Over the course of the audit the ANAO observed that, notwithstanding any other influences impinging on supply chain performance, the Demand Satisfaction Rate for spares received by the COLLINS Systems Programme Office was significantly below optimal levels, and showing a declining trend.

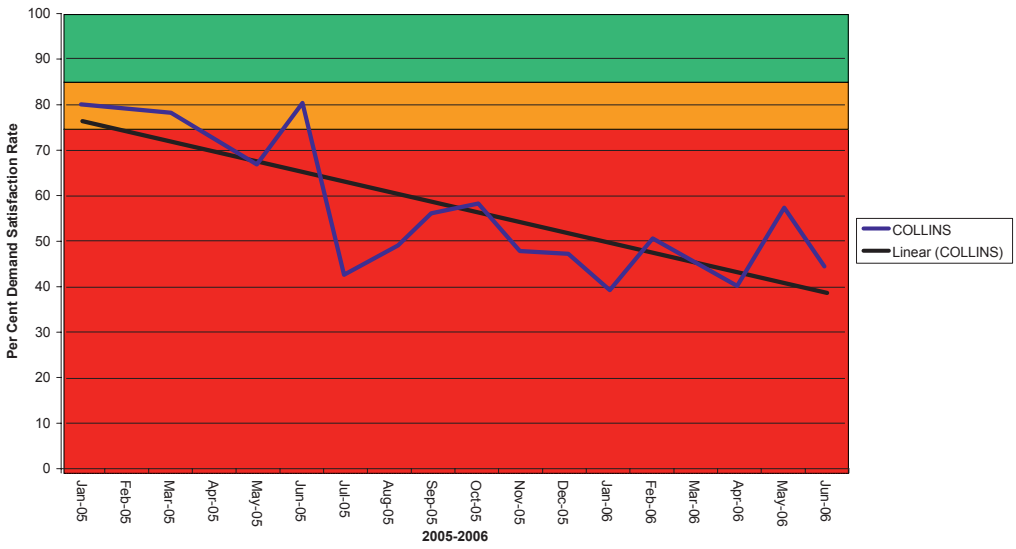
4.36 Figure 4.4 shows a significant drop in the Demand Satisfaction Rate performance over the period following the delivery of the SDSS Get Well Programme outcomes.[67] A linear regression line (Linear COLLINS) has been superimposed on the chart at Figure 4.4 to illustrate the trend.

[66] The new proposal notes that the ageing of Army's entitlements system and the problems encountered by the logistics planners during recent operational deployments has identified a need for a joint entitlements system. The envisaged system is required to address: inadequate visibility of materiel to meet the requirements of logistics planning, management and execution; incompatibility between peace and war time operations; lack of support for preparedness planning; inadequate financial data and tools for budgeting, financial and performance monitoring and statutory reporting; and inadequate support to operations planning.

[67] It should be noted that there remains a large proportion of COLLINS Class equipment not codified or currently managed by SDSS.

Figure 4.4

Demand Satisfaction Rate Outcomes for the COLLINS Systems Programme Office



Source: ANAO analysis of DMO data from LSA-N Performance Reports.

Guided Missile Frigate Systems Programme Office Supply Issues

4.37 The ANAO reviewed selected supply and support issues associated with the Defence decision in November 2003 to reduce operational Guided Missile Frigate hull numbers from six, to four. In doing so, the ANAO reviewed the methodology adopted by the Systems Programme Office to define, and take delivery of those elements of the Guided Missile Frigate Upgrade Project equipment ship sets that were no longer required as part of the upgrade.

4.38 The DMO advised the ANAO in August 2006 that under a Contract Change Proposal made effective on 2 June 2006, the equipment will be delivered progressively against agreed milestones with the provision that, by mutual agreement of the Project Authority and the Prime Contractor, delivery dates of specified equipment can be either advanced or delayed to facilitate delivery of the overall programme.[68]

[68] The DMO advised the ANAO that there are a series of reasons that the DMO would want to delay the receipt of this equipment, which include delaying the start of warranty until as late as possible, and reducing the costs associated with storage and handling until as late as practicable.

4.39 The DMO also advised that the visibility and management of the equipment on SDSS will not occur until contractually delivered and the future use agreed within Defence. This will occur progressively across the period from August 2006 to October 2008. The Contractor will be paid a series of five milestone payments from August 2006 to October 2008 totalling $6 million and will define, and deliver the equipment that the DMO has purchased, and is not being used in either the upgrade of four of the six Guided Missile Frigates, or the development of a training system, to the Systems Programme Office in a state and configuration that can be used to support operational, upgraded Guided Missile Frigates.

4.40 The Guided Missile Frigate Systems Programme Office advised the ANAO that the estimates of the value of the equipment to be returned to the DMO has been calculated using a Vesting Report, prepared by the Contractor in December 2003, which provides a valuation of property vested in the Commonwealth, held by the Contractor.[69] In addition, an assessment of the Budgeted Cost of Work Performed by the Contractor at the end of the upgrade of the fourth Guide Missile Frigate has been undertaken to ascertain the anticipated value of equipment purchased by the DMO, yet not used in the upgrade activity.

4.41 The ANAO notes that at no stage has the DMO undertaken a physical audit of the stock holdings associated with this assessment, and the contract for the upgrade does not call for this level of detail to be provided to the DMO. A consolidated, audited assessment of equipment and spare parts is not available for ANAO review.[70]

4.42 The ANAO notes that Commonwealth owned spare equipment from the upgrade will not be fully identified, codified and available for issue to upgraded ships via the SDSS system until 2009.

4.43 As was the case with the COLLINS Systems Programme Office the ANAO found that the Demand Satisfaction Rate for spares received by the Guided Missile Frigate Systems Programme Office was significantly below optimal levels. Figure 4.5 illustrates a slight downward trend in the Demand Satisfaction Rate Performance over the period following the delivery of the

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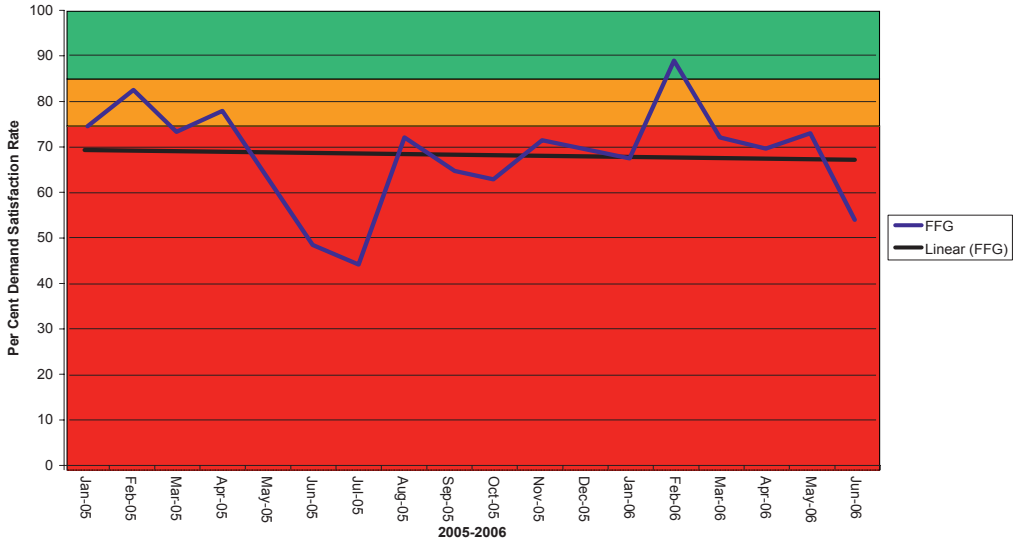
[69] The Contractor has advised the DMO that the total worth of equipment held by them on behalf of the DMO has been valued at $629.1 million (December 2003 prices).

[70] The DMO advised the ANAO in August 2006 that an audit of the Contractor's system associated with the procurement and holding of equipment, and that the contract is a fixed price contract for the delivery of the contracted requirement, and therefore, a detailed list of spare parts in not available for review.

SDSS Get Well programme outcomes. A linear regression line (Linear FFG) has been superimposed on the chart at Figure 4.5 to illustrate the trend.

Figure 4.5

Demand Satisfaction Rate Outcomes for Guided Missile Frigates Systems Programme Office



Source: ANAO analysis of DMO data from LSA-N Performance Reports.

ANZAC Class Systems Programme Office Supply Issues

4.44 In the case of the ANZAC Systems Programme Office, the ANAO reviewed how SDSS was used to facilitate the supply and support of the ANZAC Class ships. The Systems Programme Office informed the ANAO that one of the key functionalities used for forecasting usage requirements was the Naval Allowance System (NAVALLOW). NAVALLOW specifies each ship's outfit entitlements, including actual holdings and spares issued to each ship.[71]

4.45 As part of the general SDSS suite of programme improvements, it was intended that all users were to migrate from using the old SDSS interface screen in favour of the new Graphical User Interface, which did not support the NAVALLOW application. In the short term, this shortfall is being

[71] The DMO advised the ANAO that NAVALLOW records what a ship is entitled to hold, but it does not indicate a rate of usage or frequency of draw down. As such it is only one of the tools used by ADF Logistics Managers when assigning buy quantities.

accommodated by using the older screen input format. In the longer term, the DMO has proposed a new Project to deliver the functionality previously managed by the NAVALLOW system, albeit across the three Services.[72]

4.46 Similar to the COLLINS, and Guided Missile Frigate Systems Programme Offices, the ANAO noted that the Demand Satisfaction Rate for spares received by the ANZAC Systems Programme Office was significantly below optimal levels. The ANAO was informed that the inability for the DMO to supply the requisite stores, as required by end users, could be attributed to a deficient 'buy policy' at the time the acquisition of the capability was undertaken. By not procuring sufficient stores to support the life of the capability during the acquisition phase of the Project, acquisition costs are constrained, however the long terms costs of this management initiative are represented by an inability to meet end user sparing requirements when the capability is in service.[73]

4.47 The DMO advised the ANAO that, to address the observed shortfalls associated with meeting Demand Satisfaction Rates, several fora are planned with the aim of developing closer cooperation between stakeholders. These fora will discuss ongoing supply and sustainment issues and will review the development of general inventory management practices affecting the ANZAC Class. This will include the formation of a small team to periodically identify and manage ANZAC items classified as discrepant, or in quarantine storage, and will be assisted by the establishment of Integrated Material Support contracts to address broad based equipment servicing, inventory purchasing and repair and data management.

4.48 Figure 4.6 illustrates a downward trend in the Demand Satisfaction Rate performance over the period following the delivery of the SDSS Get Well Programme outcomes, against which a linear regression line (Linear ANZAC) has been superimposed to determine trend.

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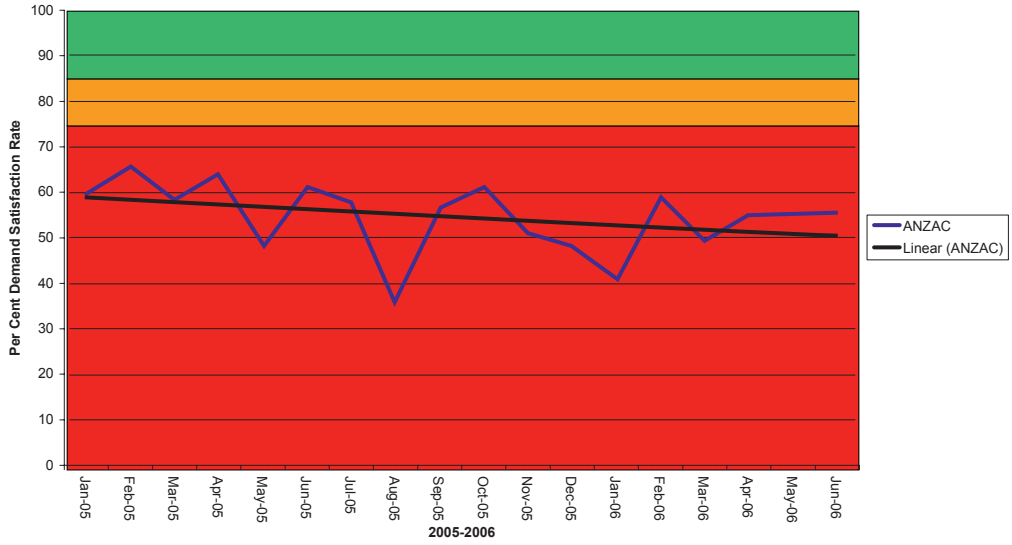
[72] The DMO advised the ANAO that NAVALLOW is a niche application with a user base restricted to selected users in Maritime Systems Division and Navy. Access to NAVALLOW is not an issue for all other users of SDSS. There was never an intention to deny access to NAVALLOW as part of the Version 4 upgrade and access is still available via the older screen format.

[73] The DMO advised the ANAO in August 2006 that initial storing for the ANZAC Class was made in accordance with the usage profile defined by Navy, and subsequent increases in usage rates have impacted the drawdown of initial project spares.

Figure 4.6

Demand Satisfaction Rate Outcomes for the ANZAC Systems Programme Office



Source: ANAO analysis of DMO data from LSA-N Performance Reports.

Virtual Warehouse Management

4.49 The ANAO observed that, the return of all items from Western Australian based ships to what are known as 'Virtual Warehouses' triggers the complete transfer of the item from the ship's logistic management system to the 'virtual' SDSS based 'Returns Warehouse' at HMAS STIRLING, irrespective of when it might be practical for the ship to physically return it, and without the receiving warehouse actually receipting the item into SDSS.

4.50 The link between the ship based logistic system and SDSS effects the transfer immediately the two systems are connected and updated, without there being any physical movement of the item. It is therefore difficult to reconcile the actual location of the returned item at any particular time, until the actual receipt of the item has been finalised by the physical warehouse at HMAS STIRLING.

4.51 The ANAO noted that once a Western Australian based ship has processed a return transaction, the item is reduced from stock on hand and

assigned to a virtual warehouse dues-in category created on SDSS.[74] The ANAO was informed that many of the returned items treated in this way are landed from ships with other support organisations overseas, or in other ports, and the receipt of these items at HMAS STIRLING is often not actually recorded,[75] even though SDSS records the items as being returned to the virtual warehouse at HMAS STIRLING.[76]

4.52 The ANAO asked Defence whether a review of stock holdings returned from Western Australian based ships to the SDSS Virtual Warehouse at HMAS STIRLING for the period from July 2003 could be undertaken, in an effort to ascertain whether the actual stock holdings have either been diminished by the amount of returned stock held in the virtual warehouses, thus reducing the level of support available for operations. The ANAO was informed that there is no specific link between items returned and those receipted (that is, issued to another district), and it would take one dedicated resource up to four weeks to produce the management data required to ascertain the value, and location of stock, and that a dedicated resource was not available.

4.53 The ANAO notes that the time defective equipment is held in the Virtual Warehouse constitutes time where it has been unavailable for repair, and the actual stock holdings have either been diminished by the amount of returned stock held in the Virtual Warehouses, thus reducing the level of support available for operations. Alternatively, to provide for a specified required capability, the DMO has the option to replace these items with additional purchases at added costs, to supplement operational requirements.

Training

4.54 The ANAO reviewed progress Defence had made with developing a coordinated training environment for SDSS and related functions against the recommendations made in the 2004–05 ANAO report of the SDSS Upgrade Project.

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[74] The DMO advised the ANAO in August 2006 that items do not disappear from ship borne logistics management systems, and stock on hand is reduced, but the transaction history remains visible, and a dues-in is created on the virtual warehouse in SDSS.

[75] Defence advised the ANAO in October 2006 that any items received at other than the warehouse recorded on SDSS are subject to defect reporting and investigation, and that will result in the items being correctly acquitted against the warehouse shown on SDSS.

[76] The 2003 Defence report evaluating the management of ADF logistics support to operations in the Middle East noted that the process of accumulating unserviceable rotable stock by ships for bulk dispatch at some later time carries a downstream availability penalty.

4.55 In September 2003, the Defence Committee determined that the Policy Owner for the development and delivery of logistics training in Defence would be the DMO. In practice, however, whereas common training elements of training are developed and delivered by the Directorate of Materiel Systems Training, non-common elements of initial training for Supply Chain operations are largely determined, developed and delivered by individual Services and Defence Groups.

4.56 The ANAO was informed that the DMO specific elements of logistics training course development is undertaken concurrently with system development, and new requirements are funnelled through the training development environment via a configuration work book in an effort to meet the requirement to train for system changes, in preparation for their delivery. One of the benefits of this approach is that system configuration can be tracked though to the training-ware being developed, and delivered.

4.57 The training organisation responsible for developing the DMO core logistics requirements is part of the Defence Learning Services Network Registered Training Organisation regime, and utilises the accredited systems within that regime to develop, and deliver core training, across the system, for users, supervisors and managers. This training is now aligned to SDSS operator profiles, which serves to reduce unnecessary training, and targets work scope to required knowledge.

4.58 Where specialist initial military training is required, as is the case in the distinct Navy, Army and Air Force user environments, that training is developed and delivered by the individual Service organisations. The centralised Directorate of Materiel Systems Training has recently undertaken to review the core Supply Chain training offered by the DMO, and has developed an evaluation programme over a rolling period of three years. This programme does not yet extend to reviewing the development of initial training in the Services and other Defence Groups, and would benefit from wider, enterprise level assessment and course validation that provides full coordinated coverage of all training that contributes to the delivery of logistics services within Defence, and the DMO.

Ian McPhee
Auditor-General

Canberra ACT
31 October 2006

Appendix

Appendix 1:

DEFENCE AND DMO COMBINED RESPONSE TO THE ANAO REPORT ON THE MANAGEMENT OF THE STANDARD DEFENCE SUPPLY SYSTEM REMEDIATION PROGRAMME

No	Recommendation	Management Response
Recommendation No. 1 Para 4.14	The ANAO recommends that Defence and the DMO assign responsibility for, and take appropriate steps to ensure that, items returned as defective to Defence warehouses under warranty are reviewed, and where appropriate, repaired by the supplier at no cost to Defence and the DMO.	Agreed. DMO is managing this in accordance with the process proposed by the ANAO.
Recommendation No. 2 Para 4.17	The ANAO recommends that, Defence develop a plan to review items that have been listed as 'in-transit' for a period in excess of 90 days, and report on a regular basis to the Joint Logistics Command.	Agreed. The DMO is currently developing additional reporting to manage aged in-transit issues more effectively.

Defence Comment:

Defence notes the overall positive assessment of the SDSS Remediation Program. Identified shortfalls in performance have been addressed through the Get Well Program; remediation of a date processing problem; enhanced business processes; and the introduction of an enhanced information technology controls framework, with full compliance expected to be achieved by October 2006.

SDSS has been deployed with ADF units and has proven very effective in supporting operational forces.

The Military Logistics Information System will continue its development path through Joint Project 2077. The next phases of this project will deliver new core software, increased financial functionality, improved in-transit visibility, an improved deployable capability and a radio frequency identification capability.

To improve user compliance with the system, Defence is devoting additional resources to training, expert assistance, ongoing exception reporting and investigation, and enhanced compliance and review activity. This will ensure the quality of new data entering the system. The existing data on the system is being progressively reviewed and amended through normal stocktaking processes.

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