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Performance Audit

Management of the Standard Defence Supply System Upgrade

Department of Defence

Australian National Audit Office

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Australian National
Audit Office

Canberra ACT
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Dear Mr President
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit in the Department of Defence 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 Upgrade.*

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

P. J. Barrett
Auditor-General

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

AUDITING FOR AUSTRALIA

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Abbreviations

ADF	Australian Defence Force
ADF-ITV	Australian Defence force In-Transit Visibility System
AIMS	Advanced Inventory Management System
ANAO	Australian National Audit Office
CCB	Configuration Control Board
CeBI	Common e-Business Infrastructure
CENCAT	Central Catalogue
CEPMAN	Capital Equipment Procurement Manual
CIO	Chief Information Officer
COD	Concept of Operations Document
COTS	Commercial Off The Shelf
CRP	CENCAT Replacement Project
CSCS	Cost Schedule Control System
CSIG	Corporate Services and Infrastructure Group
CSSR	Cost Schedule Status Reporting
DAF	Defence Architecture Framework
DAO	Defence Acquisition Organisation
DAOMAN	Defence Acquisition Organisation Manual
DCC	Defence Capability Committee (now known as the DCIC)
DCIC	Defence Capability and Investment Committee
DEA	Defence Enterprise Architecture
DEFMIS	Defence Financial Information Management System
DFCP	Defence Force Capability Proposal
DIGMAB	Defence Inspector General's Management Audit Branch
DIE	Defence Information Environment
DIEC	Defence Information Environment Committee
DISG	Defence Information Systems Group
DMO	Defence Materiel Organisation

DMOKS	Defence Materiel Organisation Knowledge System
DMSI	Defence Management System Improvements
DMST	Directorate of Materiel Systems Training (DMO)
DNSDC	Defence National Supply and Distribution Centre
DPPM	Defence Procurement Policy Manual
DRP	Defence Reform Program
DSDC	Defence Source Definition Committee
EA	Enterprise Architecture
EBPO	Enterprise Business Process Owner
EVM	Earned Value Management
Finance	Department of Finance and Administration
FMA	Financial Management and Accountability (Act)
FPS	Functional Performance Specification
HDIS	Head Defence Information Systems (Group)
HMISD	Head of the Management Information Systems Division
IBM BCS	IBM Business Consulting Services
ILS	Integrated Logistic Support
IPSSR	Improved Project Scheduling and Status Reporting (Project)
ISD	Information Systems Division
IT	Information Technology
JCPA	Joint Committee of Public Accounts
JLC	Joint Logistics Command
JLSA	Joint Logistics Support Agency
JSA	Joint Systems Architecture
JSSA	Joint Support Systems Agency (DISG)
LSA-N	Logistic Support Agency - Navy
MID	Management Information Domain
MILIS	Military Integrated Logistic Information Systems
MISD	Management Information Systems Division
OCD	Operational Concept Document

PCBS	Project Cost Breakdown Structure
PMAP	Project Management and Acquisition Plan
PMB	Project Management Baseline
PM&C	Department of Prime Minister and Cabinet
PMKeyS	Personnel Management Key Solution
PMM	Project Management Method
PMO	Project Management Organisation
PROMIS	Project Management Information System
PwC	PricewaterhouseCoopers
PwCC	PricewaterhouseCoopers Consulting
RCI	Real Cost Increase
ROMAN	Resource and Output Management and Accounting Network
ROS	Recommend Order Stores
SDSS	Standard Defence Supply System
SDSSUP	Standard Defence Supply System Upgrade Project
SPMM	Standard Project Management Methodology
TAG	Training Advisory Group
TCD	Test Concept Document
USDM	Under Secretary Defence Materiel
VCDF	Vice Chief of the Defence Force

Summary, Key Findings and Recommendations

Summary

Background

1. The Standard Defence Supply System (SDSS) *version 4* spans the three Services in its coverage of logistics management and is intended to be a key information system for financial management of Defence assets, and equally importantly, to facilitate Defence's materiel management capability.[1] The system operates with more than 14000 users over 135 separate geographically diverse business units utilising 1162 warehouses. In keeping with Defence policy, the ANAO has assessed that the system qualifies as a Strategic system.

2. The activities undertaken to provide an improved materiel management capability comprised the SDSS Upgrade Project (the Project) and other elements, to be delivered by a number of related projects.[2] The ANAO has taken the baseline for the Project from the scope, and associated budget, defined in the approved Equipment Acquisition Strategy.

3. In July 2000, the Project was initiated with an approved budget of $15.87 million with the main aim of delivering a Standard Supply Chain System across Defence by June 2002. The Project was to combine the implementation of a new version of the operating software with improvements to the management of the Defence supply chain and supporting infrastructure. This enhancement, once rolled out, was intended to deliver an integrated system with which Defence could manage its spares inventory, accounting for over 1.6 million categories of stores, valued at some $1.9 billion.

4. As of November 2003, the Project had incurred costs of $49.9 million, excluding $5.1 million in contract residuals contributed by e-Procurement and SDSS *version 3* legacy training projects. Defence advise that the formal Project closure will be dependent on the delivery of the financial reporting functionality expected of the SDSS *version 4* system.

5. Defence manage acquisition projects under two main categories: Major Capital Equipment projects, which, at the time the Project was undertaken, were centrally located and managed by the Defence Acquisition Organisation in Canberra; and Minor Capital Equipment projects, which were controlled by

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1 SDSS *version 4* was developed with the aim of supporting all supply chain activities at Unit, Formation and Depot level within the Services and the regional and national levels within the DMO. The activities include: warehousing, issue and receipting, asset/repairable item tracking, purchasing, cataloguing, foreign military sales, stocktaking and disposal, repair of inventory, and maintenance of equipment for Army.

2 Contributory projects to the successful delivery of the upgraded SDSS include, but are not limited to: project JP 126 Phase 2A (the roll out of SDSS (*version 3*) to Army); the Common e-Business Infrastructure (CeBI) project; the SDSS Data Quality project; and the SDSS/ROMAN Interface project.

any of the then 14 Defence Groups, which included the Support Command Group.

6. The Defence logistics environment is managed by the Joint Logistics Command, which is based in Melbourne. The Project was initiated by the Support Command Australia, which was the antecedent of the Joint Logistics Command. The Project was later transferred to be managed by the Management Information Systems Division (MISD) within the Defence Materiel Organisation (DMO).

7. Strategic procurement activities are focused on delivering outcomes that are critical to Defence's ability to meet its core objectives. The Project satisfied the conditions for classification as a strategic procurement activity, and thus treatment as a Major Capital Equipment Procurement activity. The risks of program failure were high, and the costs associated with delay were also high. The procurement activity was very complicated, extending across more than 50 individual contracts of varying nature and complexity.

8. The objective of the audit was to undertake a performance audit of the project management environment governing delivery of Defence business information system projects, with specific reference to the Project. Notwithstanding the SDSS financial integrity issues, which are dealt with separately in the annual ANAO Financial Statement audit, this audit addresses the scope of the system being delivered, with specific regard to its ability to meet end user capability requirements.

Key Findings

Approval Management (Chapter 2)

9. The ANAO found that the Project was not managed as a strategic procurement activity, nor was it managed as a Major Capital Equipment acquisition activity. As was the custom in Defence at the time, it was managed as a Minor Capital Equipment procurement activity.[3] As a result, the procedural guidelines in the Defence Procurement Policy Manual, and the Defence Capital Equipment Procurement Manual (CEPMAN 1) for the inception, approval, management and delivery of a Major Capital Equipment acquisition activity were not followed. Defence guidelines at the time of the Project's initiation stipulated that projects of a strategic nature, of estimated

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[3] Minor Capital Equipment procurement activities are treated very differently in Defence from those classified as Major Equipment Procurement activities. Minor Projects, as they are known, are characteristically less than $20 million in cost, and are managed with far less rigour than are Major Capital Equipment Projects. Major Capital Equipment Projects are those estimated to cost in excess of $20 million, and require Ministerial approval for implementation. Senior Defence staff have advised that Defence did not manage Business Information System software projects as anything other than Minor Projects.

materiality in excess of $20 million, and running for a period in excess of 12 months, should be undertaken as Major Capital Equipment procurement activities, mandating Cabinet approval, as well as prescribed management deliverables and methodologies.

10. The Project was managed as a Minor Capital Equipment acquisition project, following allocation of initial funding to the value of $15.87 million in July 2000 from Support Command Group operating budget funds. The ANAO did not observe that Defence sought, or obtained, Ministerial approval before allocating initial funds to, and then implementing, the Project, despite the July 2000 Equipment Acquisition Strategy estimate of Project costs of $27 million.[4]

11. Defence applied to the Department of Finance and Administration (Finance) in mid 2000 to improve SDSS, utilising funds from $40 million allocated within the 2000–01 Defence Portfolio Budget.[5] Finance advised that a detailed report was required to provide independent advice, relating to the adequacy of the strategy associated with the upgrade of the SDSS. Finance indicated that the report would be required to justify approval for allocation of the funds sought by Defence. Defence later reported that Finance contended that it would be more cost effective to replace SDSS than to upgrade it. The ANAO found no evidence to confirm that Defence sponsored, or actually provided, the requested report to Finance. Defence subsequently advised that studies associated with the follow-on Project JP 2077 have concluded that migration to a different system would have been even more expensive than the options chosen. The ANAO has not verified these claims given the elapsed time and subsequent decisions taken.

12. Authorisation to initiate the Project was derived from the Defence Executive allocation of operational funds to the Support Commander Australia, who in turn authorised the Defence Joint Logisitics Support Agency (JLSA) to utilise the operating budget to initiate the Project.[6]

13. Prior to Project approval in July 2000, the Defence Acquisition & Logistics Review Team applied to the then Minister for Defence in April 2000 for $23 million of funding to implement Project JP 2077, a closely related project with follow-on aims now associated with building upon the achievements of the SDSS Upgrade Project. The request for Project JP 2077

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4 Government requirements in 2000 stipulated that project approval submissions between $8 million and $20 million require the concurrence of the Ministers for Defence and Finance. The guidelines also stipulate that submissions above $20 million require Cabinet approval.

5 $40 million was made available within the 2000–01 Defence portfolio budget for expenditure on corporate management systems. The program established to manage the those corporate improvements later became known as the Defence Management System Improvement Program.

6 Advice from the Joint Logistics Command is that the Defence Executive provided approval for the use of Support Command operational funds to implement the SDSS Project. The ANAO was unable to locate the approval from Defence Executive minutes made available from Defence.

funding was accompanied by a statement of savings amounting to $40 million to be realised by implementing the initiatives for which the funding was sought. Of the initiatives designed to realise the savings, $6 million of the tasks were transferred to the Project,[7] which would, according to Defence, have secured $15 million in savings to Defence.[8] The ANAO has not observed, nor has Defence provided, any evidence of Defence efforts, or impending plans or methodologies to measure the net gain savings offered by the completed, and projected SDSS upgrades.[9]

Governance (Chapter 3)

14. At the time the Project was initiated, Defence did not maintain an integrated business information management system perspective with respect to strategic business information system development programs. No overarching architectural guidance from the Enterprise Business Process Owner (EBPO) Domain Chief Information Officer (Domain CIO), nor from the Defence Information Environment Committee (DIEC), was applied with the aim of achieving interoperability with other business information management systems. The latter has long been regarded as good practice.

15. The Project utilised a proprietary management system, and did not report progress utilising standard Defence reporting systems.[10] The ANAO concurs with an internal Defence assessment that the Project Board appeared not to adequately supervise the management of internal Defence relationships required to successfully deliver the Project on time, within scope and within budget. The Project Board met twice during 2002.

16. The ANAO found that the Divisional reporting system lacked an effective focus on the progress and delivery of scope within the original baseline schedule and cost allocations. The representation of a GREEN status would indicate that the project is on time, within budget, and delivering the approved scope. An internal Defence Audit Report found that, in the case of this Project, it was never capable of delivering the required scope within the allocated budget and schedule. Nevertheless, the reporting system recorded a GREEN status for consecutive reporting periods on more than one occasion. This included a period of six of the last 12 months of the Project's duration.

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7 Both the implementation of a Common Supply System, and the development of a Central Catalogue were transferred to the SDSS Upgrade Project. The costs associated with undertaking these activities are quoted as $5 million and $ 1 million respectively. The savings that were supposed to have been realised, maturing in 2002–03, were $10 million and $5 million respectively.

8 Of the $6 million anticipated cost, the funds transferred only amounted to $5 million.

9 A further $6 million was transferred from Project JP 2077 to fund improvements to the logistics computer network.

10 Defence advise that the PROMAN project management was utilised by the DMO and its predecessors to report and manage Minor Projects during the period the SDSS Upgrade Project was being undertaken.

Further, the estimated cost at completion for the Project increased throughout the life of the Project.

17. The ANAO observes that the processes and reporting requirements across projects being managed in differing Defence organisational environments are not standardised. The management controls over each project thus differ. Project management methodology and reporting requirements are also at variance.

18. The Project Board, and the Project Office were reported by Defence to have not effectively managed mitigation strategies to obviate the occurrence of the risk outcomes.

Project Management (Chapter 4)

19. The Project commenced as a proposal to upgrade the existing operating system upon which the Defence logistics management system was based while, concurrently, upgrading the business rules to roll out a Single Supply Chain Management System, and introducing changes to the financial records of the system to enable it to comply with accrual accounting standards.

20. In the approved Equipment Acquisition Strategy, Defence identified that it did not have the staff to effect project management of the delivery of the required outputs associated with the Project. To that end, the approach approved by Support Command Australia was to outsource a contracted Project Management Organisation (PMO).

21. The proposed upgrades were defined in a report commissioned by Defence from PricewaterhouseCoopers Consulting (PwCC). An Equipment Acquisition Strategy was developed against the PwCC report, which incorporated the report as an attachment. Defence subsequently tendered for project management services to assist with implementing the changes articulated within the report. PwCC won the tender, and was appointed as the PMO. A series of suppliers were contracted by Defence to implement the deliverables required to fulfil the Project's outcomes.[11]

22. Management of Phase 1 of the contract was based largely on payments to contractors on the timely delivery of statements of work and was completed at a cost of $4.65 million. IBM Business Consulting Services (IBM BCS) advised the ANAO in June 2004 that Phase 2 of the Project comprised fixed cost deliverables and foundation payments.[12] The payments, which constituted

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[11] The PMO role was novated to IBM Business Consulting Services (IBM BCS) in November 2002 to coincide with the IBM acquisition of PwCC.

[12] In July 2004, Defence advised the ANAO that: *the term 'foundation payments' is not one used in Defence contracting and it should either be replaced with the original 'time and material' wording, or have a clear definition included.*

agreed hourly rates for the provision of specified contractor staff, were periodically negotiated between the PMO and Defence for renewed, monthly, fixed cost deliverables, as specified by the PMO contract.

23. IBM BCS advised the ANAO in June 2004 that:

> … the reason that costs for the project exceeded the original budget is not surprising when the following factors are taken into account:
>
> a. The requirement from Defence for the PMO to keep operating for a longer period due to the delays …
>
> b. The PMO being requested to do additional tasks (Contract Deliverable Requirements, CDRs) that were either new work or work to assist Defence meet its own responsibilities in the light of Defence resource shortages.
>
> c. Additional scope being added to the project (eg Whole of Defence e-Procurement, MMM [MIMS Maintenance Module] equipment maintenance) and changes to the scope of existing CDRs.

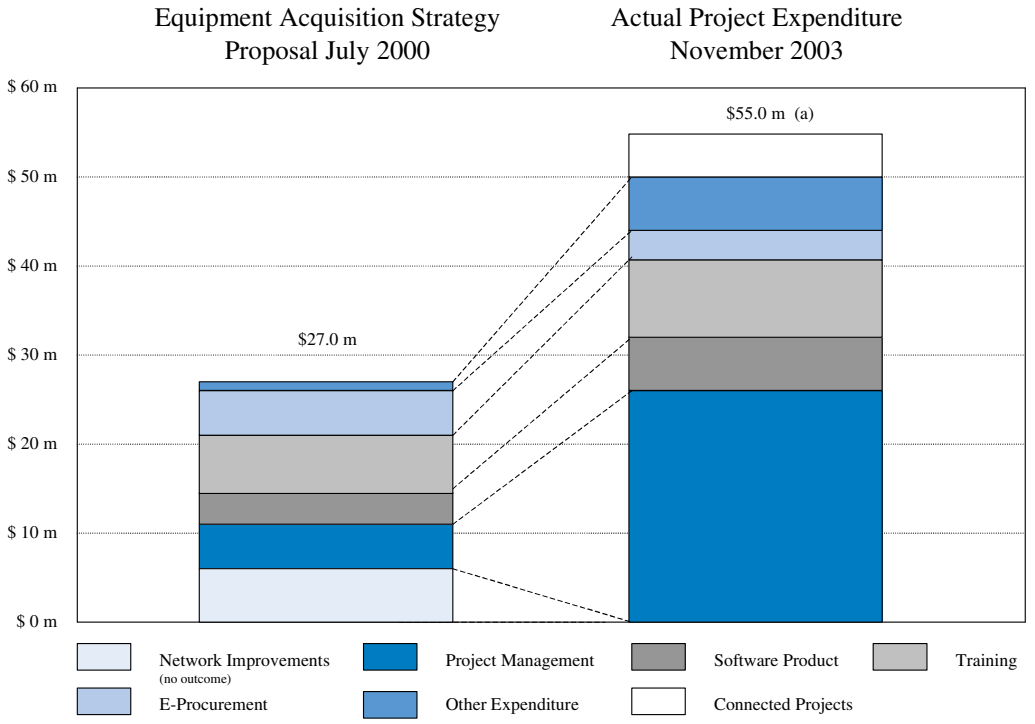
24. Defence advised the ANAO in July 2004, in reference to paragraph 23.c, that:

> IBM is quoted as saying the Whole of Defence eProcurement was added to the scope of the project. This is incorrect. A separate project 'Provision of SDSS eProcurement Tools' was established and managed as a separate project to SDSSUP, and was delivered to plan.

25. Phase 2 of the Project did not achieve the required outcomes expected of it, and exceeded the cost allocated schedule by more than 100 per cent. Figure 1 illustrates that the largest component of the total cost increase was represented by the payments made in respect of Project management, which rose from an estimated $5.2 million to $26.3 million. There were 21 contract amendments to the PMO contract. The initial allocation for network improvements, identified as a $6 million requirement in the Equipment Acquisition Strategy (see Figure 1), was diverted to other requirements within the Project. The performance of the delivered system continues to be adversely impacted by issues demonstrative of poor network performance.

Figure 1

Comparison of forecast and actual SDSSUP expenditure



Note: (a) Total expenditure ($55 million) to November 2003 includes the balances of the e-Procurement ($2.4 million) and Training ($2.7 million) contracts supported by funding from other projects.

Source: Defence financial and contract records.

26. Contractual controls associated with enforcing the delivery of products were ineffective. The Project Office did not demonstrate effective control over internal Defence suppliers. Late supply of deliverables from internal Defence suppliers contributed to critical path extensions in schedule, and concomitant cost increases associated with payments to commercial contractors who were, in turn, delayed in their deliverables.

27. Management decisions to redirect allocated resources to cover increases in management expenses eventually contributed to poor network performance, loss of functionality, and loss of system acceptance by end users.

28. The software metric controls associated with product development, while being recorded, were not used as predictive indicators to assess and manage potential delays. The ANAO did not observe an effective form of Cost Schedule Control management being utilised. Scope changes, associated with financial reporting requirements during the course of the Project, added

further functionality to the required outputs but with concomitant cost and schedule increases.

Delivery Management and Follow-on Support (Chapter 5)

29. The Project did not deliver the approved scope for which it was funded. Also, the Project did not deliver the approved outcomes within the time allocated. Defence has advised that Project closure was expected to be in June 2004,[13] compared with an original baseline estimate of 30 June 2002 (see Table 1). It also exceeded the approved start up funding by more than $33 million.[14]

Table 1

Project Event Calendar

Critical Event	As Planned July 2000	As Delivered May 2004	SDSSUP Approvals	Cumulative Expenditure
Project Commences	1 Oct 2000	17 Nov 2000	$15.87 million	
Phase 1 Completed	31 Dec 2000	31 Mar 2001		$4.65 million
Phase 2 Commenced	1 Jan 2001	1 Apr 2001		
JP 2077's approval		July 2001	$11.1 million	
Real Cost Increase		4 Oct 2002	$15 million	
First Delay - War in Iraq		Apr 2003	$4 million	
Second Delay - War in Iraq		Jun 2003	$4 million	
First Site Goes Live	1 Oct 2001	28 Jul 2003		$44 million
Last Site Goes Live	30 May 2002	27 Oct 2003		$47.5 million
Expected Project Closure	30 Jun 2002	30 Jun 2004		$49.9 million [(a)]

Note: (a) Reported expenditure ($49.9 million) does not include the balances of the e-Procurement ($2.4 million) and Training ($2.7 million) contracts supported by funding from other projects.

Source: Defence Records.

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[13] The ANAO noted that the Project Office had disbanded by early 2004. This, in effect, constituted effective Project closure. The Project funding line was being held open by Management Information Systems Division (MISD) to cater for outstanding invoice and follow-up actions associated with delivering financial reporting functionality elements of the system at additional costs over and above $49.9 million. The estimated costs associated with delivering the required financial reporting functionality is between $0.4 million and $0.7 million.

[14] The original Equipment Acquisition Strategy designated a requirement to expend $27 million to deliver the required Project outcomes. The original budget available, however, was $15.87 million, made available from operational funding. There was no specific Defence Budget Appropriation set aside for SDSS.

30. During the Project build phase, the contractual terms used to engage the primary supplier of upgraded code did little to support the timely delivery of the product. Similarly, the contracting methodology applied to the PMO did not provide incentives for efficient project management.

31. From the outset, it is not evident that the Defence Project Office fully engaged key stakeholders who had control over Project inputs, and who would have eventually acted as the acceptance authority, had a fully integrated project/product team approach been implemented.

32. Implementation of training was delayed on two occasions, coinciding with the impacts of the war in Iraq, which cost the Project $8 million. The full cost of training development and delivery exceeded the original estimated cost by 47 per cent. The delivery of training to end users did not account for the full range of training requirements necessary to fully transition the SDSS upgraded system into service. Co-ordination and analysis of end-user training requirements were deficient, and did not meet all end user training needs. The ongoing in-service co-ordination of SDSS training requirements and delivery management would benefit from more centralised control. Defence has not articulated a clear training philosophy to manage the post delivery training requirements for the entire upgraded SDSS user community.

33. As at the completion of this audit, the delivered Project had not achieved many of the key Defence financial and functional reporting requirements associated with operating its logistics systems. A summary of the shortfalls associated with the financial management capability of the upgraded SDSS system, as provided by Defence, is at Table 2.

Table 2

SDSS Financial Requirements Delivery Status: May 2004

Issue	Delivered on SDSS *version 4* Implementation	Status
Inventory Movements Report–to provide reconciliation between opening and closing inventory balances and identifying postings for purchases, consumption and disposals.	X	Defence reports that it is now partially operable, with serious limitations.[(a)]
Fixed Assets Movement Report–to provide reconciliation between opening and closing quantities for each asset stock code and identify quantities of asset purchases and disposals.	X	Defence reports that a prototype now exists with serious limitations.[(a)]
Defence-specific General Ledger–to provide a cost-centre breakdown of SDSS transactions and generate a General Ledger Report to aid in conducting reconciliations.	X	Defence reports that the system is working with limitations.[(a)]
Exception Reports–required for QA of data and underlying transactions.	X	Defence advises that it remains unavailable.[(b)]
Restricted use of Stock Adjustments.	✔	Defence reports that the user profile is restricted, yet access to this profile is widespread.
Improved controls over the creation of SDSS positions.	✔	Defence reports that transactions associated with positions remain a risk. Legacy data is not validated.
Defaults of Accounts and Cost Centres.	✔	Defence reports that this functionality is not correctly set up.
Tighter Transfer Accounting.	✔	Defence advises that this functionality is not yet fully embraced by users.
Prevention of 'zero' inventory prices on Workshop Orders.	✔	Defence assesses that this functionality is delivered.

Issue	Delivered on SDSS *version 4* Implementation	Status
Management Reports–to assist Australian Defence Force Logistics Managers manage their items more efficiently and effectively.	X	Defence advises that the rectification of this shortcoming has not been started.(c)

Notes: MINCOM advised the ANAO in June 2004 that:

(a) these issues are being addressed in the 'Get Well' program;

(b) *Exception Reports* were ruled out of the scope of SDSSUP, they were not specified by the PMO, and MINCOM was not asked to develop them. MINCOM further advised that they are included in the 'Get Well' program; and

(c) rectification is scheduled to start from July 2004 as an element of the 'Get Well' program.

Source: Defence correspondence dated May 2004.

34. The ANAO agrees with a Defence report which states that a significant training liability still exists, resulting from inadequacies in the Project, and associated projects. The Defence report also states that the end user community has not accepted that the training provided has met the requirement to impart an adequate understanding of the SDSS *version 4* processes and functionality. Defence further reports that the problem associated with training is compounded by the significant number of SDSS operators yet to receive initial SDSS training.

35. The elements that were defined as critical success measures, yet not delivered by the Project, being Purchasing, Warehousing and Financial Management, have largely been transferred to Project JP 2077 and an SDSS Get Well Program for delivery at a future date, at additional cost to Defence.

36. Defence advises that the SDSS *version 4* Get Well Program has been proposed with a completion date of December 2005. The Get Well Program is expected to attend to infrastructure performance improvements, business process improvements, software defects and financial reporting shortfalls from the current operating budget. Defence further advises that work on data quality will be funded to $0.5 million. A similar amount will be made available for infrastructure performance improvements. For data quality purposes, a business case is being developed for an additional allocation of $6 million. Defence estimates that additional costs associated with infrastructure performance improvements will be of the order of $3.35 million, which is to be drawn from operating budget funds. Defence is proposing to manage the Get Well Program as a series of Minor Projects, as well as utilising 'in-service' support contracts.

Overall Conclusions

37. The ANAO found that the Project has not delivered value for money to Defence. 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. SDSS *version 4* was to provide Defence with improved finance functions, tighter controls over data integrity and transaction processing, and improved reconciliation and reporting. The Project has failed to materially deliver many of the outcomes for which it was funded.

38. As at the completion of ANAO fieldwork in April 2004, the initial scope of the Project remains incomplete. Cumulative cost escalations [excluding $5.1 million in contract deliverables from legacy training and e-Procurement projects] have required a further allocation of $34 million to what had originally been approved as a $15.87 million project. By November 2003, the Project had already exceeded its initial approved budget by more than 200 per cent. This excludes further funds being earmarked for the SDSS Get Well Program. Defence has advised the ANAO that the anticipated delivery date for the Get Well Program remediation activity is December 2005.

39. The Project was raised as a Minor Capital Equipment acquisition project from operating funds to provide major systemic changes to the entire Defence logistics management environment.[15] This decision was taken irrespective of the Equipment Acquisition Strategy, which estimated the cost associated with implementing the stated upgrade outcomes as being $27 million which would, at the time, have required the Project to be approved by Cabinet, and managed as a Major Capital Equipment procurement activity. Defence governance procedures have recently been strengthened to ensure that all strategic capability procurement exceeding designated limits will be referred for Ministerial consideration.

40. Technical risks, as well as risks associated with scope amendments, were not broken down in terms of their respective scope, schedule and cost impacts in order to be easily understood by members of the Project Board. The organisational risks associated with delivering the Project were not adequately managed. End users remain discontented with the performance of the delivered product, which did not meet 40 per cent of the critical success factors defining successful Project delivery.

41. The contractual construct chosen for the Project was deficient. The decision to retain a contracted PMO, on hourly rates, for a high-risk software

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[15] Defence has advised that it characteristically utilised operating funding to implement Defence business information system software applications within individual Defence groups at the time the SDSS Upgrade Project was initiated.

development and roll out program during Phase 2 of the Project, proved to be inappropriate, and did not shift adequate risk to the PMO. A large proportion of the costs associated with the delays experienced by the Project were consumed by the PMO.[16] The PMO had no direct contractual authority over any of the internal, Defence suppliers to the Project, and limited contractual control over commercial suppliers, yet was expected to accept responsibility for the management of deliverables.

42. The delivered system functionality does not satisfy many of the end user expectations. Significantly, the system is ineffective in its ability to manage Defence stock holdings to the extent originally envisaged, and restricts Defence's ability to fully account for them. The system does not adequately alert appropriate Defence logistic management staff that strategically important stock holdings have fallen below levels able to support Defence operational requirements. Reports of this nature are not automatically routed to materiel managers responsible for replacing used stores. Without appropriate workarounds, these shortcomings compromise Defence's ability to assure operational Force Element Groups that the stores, necessary to implement their stated operational requirements, can be delivered, as required, to support specified levels of operational readiness.

Agency Responses

43. Defence agreed with all eight recommendations. Defence advised ANAO that Recommendation No.1 was agreed for future projects.

44. The Department of Finance and Administration (Finance) advised ANAO, in its response to this audit, that:

> The Department of Finance and Administration (Finance) supports the thrust of the Report's recommendations and notes that the Defence Procurement Review of 2003 placed an emphasis on the importance of business information systems and the need to build and maintain these systems.
>
> Finance notes that the "traffic light" reporting noted in Recommendation 2 is but one form of reporting that could be used to evaluate a project's progress. However, any project progress report should include the milestone achievement versus project expenditure achievement of the project to ensure that useful decision-making information is available.
>
> An appropriate upgrade plan and standards for the management information systems are vital for a number of reasons. Finance, for example, relies on the information made available by Defence in producing costings for deployment

[16] PwC advised the ANAO in June 2004 that the characterisation of the contract as one for time and materials is not accepted. Such a characterisation ignores the fact that the contract specified a number of fixed price contract deliverables (which were capped on a monthly basis where those deliverables were calculated on hourly rates).

of the Australian Defence Force overseas. If the systems are unable to accurately capture such information, then the costings risk being compromised.

Recommendations

Set out below are the ANAO's recommendations, with report paragraph references and an indication of the Defence response. The recommendations are discussed at the relevant parts of this report.

Recommendation No.1 Para 2.44

The ANAO recommends that Defence adopt approval processes for business information management systems that align with processes used for other major capital acquisitions.

Defence response: Agreed for future projects.

Recommendation No.2 Para 3.22

The ANAO recommends that Defence review the Management Information Systems Division traffic light reporting methodology to ensure that, project progress is assessed in terms of both current and original baseline information.

Defence response: Agreed.

Recommendation No.3 Para 3.39

The ANAO recommends that Defence develop and promulgate a Standard Operating Environment upgrade plan. This plan would describe the technical, system, and operational standards to be adopted for management information systems over the short, and medium term.

Defence response: Agreed.

Recommendation No.4 Para 4.49

The ANAO recommends that Defence:

a) develop specific policy to define, and manage effectively, actual and perceived conflicts of interest arising from the engagement of a Contractor to conduct the scoping phase of a project that provides the basis of a much larger tender; and

b) review the use of a time and materials style contract for the performance of management functions associated with high-risk software development projects dependent on Defence specific deliverables.

Defence response: Agreed.

Recommendation No.5 Para 4.66

The ANAO recommends that, where the use of an Earned Value Management System is stipulated by extant policy, Defence consider adopting Australian Standard 4817-2003, the Australian Standard for Project Management Using Earned Value, to provide robust performance assessment information to senior management.

Defence response: Agreed.

Recommendation No.6 Para 5.22

The ANAO recommends that Defence:

a) review the responsibility for SDSS system management and development in the 'In Service' domain, against the responsibility to fund the development and validation of training products for delivery to the user environment;

b) review the requirement to establish a centralised Defence Training Authority to accept responsibility for the management and delivery of all required SDSS training;

c) ensure that the chosen Training Authority has adequate and relevant experience in the delivery of information system training ware;

d) review the regulation and suitability of the training at regular intervals; and

e) ensure that training is included as a standing agenda item at a Senior User Group, or similar executive forum, where the authority to expend funds for training development activities can be endorsed for implementation.

Defence response: Agreed.

Recommendation No. 7 Para 5.33

The ANAO recommends that Defence regularly review user acceptance of, and compliance with, the Defence Supply Chain Manual and associated management directives.

Defence response: Agreed.

Recommendation No. 8 Para 5.40

The ANAO recommends that Defence manage the recently developed SDSS Get Well Program within the framework of the Defence Information Environment, including wide end user involvement (with Joint Logistics Command representation) at the Governance Board level.

Defence response: Agreed.

Audit Findings and Conclusions

1. Introduction

This chapter discusses the function of SDSS, the requirement for upgrading the existing system, its relationship with select other business information system projects, and the overall audit approach.

Background

1.1 SDSS is a key element of the Australian Defence Force (ADF) logistics management capability. The system acts to support the joint capability associated with the employment of Defence resources to meet national Defence initiatives.

1.2 The SDSS supports the management of over 1.6 million items in inventory, worth $1.89 billion, and is the core functionality associated with managing the annual procurement of $550 million worth of general stores and $250 million of repairable items. Coupled with the Defence financial reporting system, ROMAN,[17] and the Defence personnel management system, PMKeyS,[18] SDSS forms one of the main business management pillars on which Defence relies to manage its activities.

1.3 Prior to the rollout of the initial SDSS product in the early 1992, Defence lacked a joint ADF logistics business management process.[19] The Joint Committee of Public Accounts (JCPA) reported in 1992 that, throughout the life of the Supply System Redevelopment Project,[20] which was initiated to roll out the first SDSS product, the sub-elements of the project continuously fell behind schedule.[21]

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17 ROMAN is the Defence Resource and Output Management and Accounting Network.

18 PMKeyS is the Defence Personnel Management Key Solution System for Personnel Management.

19 The JCPA 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.

20 The 1992 JCPA report states that Defence estimated the cost of the Supply System Redevelopment Project at $299.7 million in April 1988 prices.

21 The primary causes of the slippages reported by the JCPA in the 1992 report (page xvi) were:

- difficulties in staffing the Project;
- a scarcity of funds;
- overly optimistic assessments of what sub-project deadlines should be;
- delays in the establishment of the Defence Electronic Data processing Systems Integrated Network Contract and continuing doubt as to the products available via the Contract;
- delays in the evaluation of the supply/inventory application package caused by the Defence committee process; and
- the complexity of simultaneously meeting the requirements of both the Department and the three Services.

The Committee's assessment was that these and other slippages were, to a large extent, the result of poor administration and management of the Project at a global level.

1.4 The divergence in the procedural application of the SDSS product across Defence extended to differing processes, data use and data definitions. These divergent practices inhibited critical operational requirements associated with asset tracking, and invalidated accurate inventory stockholding and distribution profiles.

1.5 The Project associated with upgrading the SDSS was designed to deliver a Standard Supply Chain System across the whole Defence user base. The projected benefits associated with the upgrade were characterised as improved visibility, better management capability and standardisation of processes.

1.6 The SDSS Upgrade Project was initiated by the approval of the Equipment Acquisition Strategy in July 2000. The adopted acquisition strategy was to engage an external Project Management Organisation (PMO) to direct a number of internal and external service providers. Additionally, the acquisition strategy identified MINCOM Ltd. as the sole source provider of both the upgrade of the core product, and any further enhancements to the software.

1.7 The Project commenced in November 2000, with extensive activity aimed at gathering business requirements from users and customers. The establishment of a Project Board was delayed until June 2001. In the interim, the Project operated with a Senior User Group who had the role of overseeing the requirement for the Project to meet the stated business outcomes.

1.8 The PMO was structured to support the Defence Project Director and staff (known as the Project Office), by managing all contracts with service providers and in co-ordinating communications with all stakeholders. The contracted element of the PMO was resourced by an external service provider, PwCC.

1.9 The three main providers of the system build activity were:

- Defence Information System Division (ISD) for the development of Defence specific code conversion between versions of MIMS (a proprietary information management system), including interfaces with other Defence systems;
- MINCOM Ltd. for conversion of core product between versions of MIMS and negotiated enhancements to achieve new business requirements; and
- IBM-GSA (in partnership with MINCOM Ltd.) for development and build of e-procurement functionality for the SDSS.

1.10 In addition, external service providers were competitively sourced for:

- development and production of the Single Supply Chain Manual; and
- development and delivery of the SDSS training during rollout.

1.11 The initial Project budget allocation was for $15.87 million. The Equipment Acquisition Strategy was approved for $27 million. The proposed Project term specified delivery of the required products by June 2002.

Management Information Domain impact on SDSS

1.12 The existing Management Information Domain (MID) is characterised by a set of stand-alone components and developments that attempt to address individual Group reporting and management information needs.[22] These individual initiatives are colloquially referred to as 'stovepipes' within Defence. Stovepipes represent an attempt by Groups to generate management information and business intelligence from their source data, with little ability to interchange information or data with, or from, other systems.

1.13 The timetable associated with implementing an overarching plan to bring these systems together, precludes its review during the timeframe allocated for this audit. The Defence project aimed at bringing these systems together is Project JP 2080.

Project JP 2080

1.14 As of November 2003, Project JP 2080 is the Defence Management Systems Improvement Project, created to improve the quality and breadth of information available to Defence. The project is broken into multiple phases, which extends out until 2018. Its aims included making improvements to data quality within PMKeyS and SDSS, establishing the development of a budget and output reporting system, and providing a replacement for the transactional link that existed in previous versions of SDSS and ROMAN. Phases 2A, 2B, 3 and 4 are intended to deliver an integrated, Defence-wide MID. Table 1.1 depicts the dates and anticipated materiality associated with future phases.

[22] The exception to this arrangement is that the Capability Infrastructure Funding module attempts to provide information from all internal domains to strategic decision-makers.

Table 1.1

Defence Management Systems Improvement Project (JP 2080) Phasings

JP 2080 Phase	Year of Decision (Financial Year)	In Service Delivery	Estimated Expenditure
Phase 2A	2003–04	2004–2006	< $10m
Phase 2B	2003–04	2005–2007	$50m to $75m
Phase 3	2007–08	2009–2011	$30m to $50m
Phase 4	2013–14 to 2015–16	2016–2018	$30m to $50m

Source: Defence Capability Plan 2004–2014.

1.15 The strategic end point envisaged from Project JP 2080 is to provide an integrated business system management environment, against which Defence can accurately manage its business.

Project JP 2077

1.16 Project JP 2077 is split into two main phases. Both phases seek to provide more efficient and effective logistics support to the ADF, through improvements to the Defence logistics information management systems.

1.17 Phase 1, approved in July 2001, was intended to tie together earlier SDSS initiatives, rationalise existing logistics systems, and accelerate implementation of a consolidated improvement program. The Defence Capability Plan 2001–10 cites Project JP 2077 being responsible for upgrading the logistics computing platform and software packages, increasing the standardisation of systems and procedures, improving inventory management practices, audit of the logistics inventory, and improving the ability to track goods in transit.

1.18 Phase 2 is to provide a further enhancement and improvement in Defence's logistics information systems. The Defence Capability Plan 2001–10 states that this phase, and future phases of the JP 2077 proposal may be rolled into the proposal to develop and improve Defence Management Systems under Project JP 2080. Table 1.2 depicts the relevant dates and estimated expenditure associated with each phase.

Table 1.2

Defence Improved Logistics Information Systems (Project JP 2077) Phasings

JP 2077 Phase	Year of Decision (Financial Year)	In Service Delivery	Estimated Expenditure
Phase 1	2001–02	Not stated	$20 - $30 million
Phase 2	2004-05	2007-09	$100 - $150 million

Source: Defence Capability Plans 2001–10 and 2004–2014.

1.19 Project JP 2077 was, to a large degree, used as a funding vehicle to supplement the Project's budget to the extent of $26.1 million, as of 30 November 2003.[23] Project JP 2077 has also taken responsibility for management of many of the supporting projects required to improve the functionality of the Defence logistics management information environment.

1.20 Other projects contributed to the overall delivery of an upgraded SDSS system for Defence use. Of those, Operation Falconer contributed $8 million;[24] Project JP 126 Phase 2A contributed $2.6 million;[25] and the Common e-Businesss Infrastructure Project contributed $2.4 million.

Audit Approach

1.21 The audit was structured to review Defence methodologies employed for business information system project definition, planning and prioritisation, for implementation against extant procedural requirements, linking project authorisation with strategic requirements and architectural direction.

1.22 The audit reviewed the project management environment governing delivery of Defence business information system projects, with specific reference to the Project. The audit addressed the scope of the delivered system, with specific regard to its ability to meet end user capability requirements. The audit also reviewed the overall success of the Project in its ability to deliver a product that meets with user requirements and expectations within approved schedule, scope and budget. As such, this was not an audit of contractor performance, but of the formation and contract management of the acquisition project by Defence.

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[23] MISD management records indicate Project JP 2077 contributed $26.1 million as of November 2003.

[24] Operation Falconer constituted funding made available to support the 2003 War in Iraq. Delays associated with the inability for Defence to roll out the SDSS *version 4* system were attributed to causes associated with the War in Iraq, and attracted supplemental funding from that budget.

[25] Project JP126 Phase 2A contributed the training required for Army to back-skill staff to operate the SDSS *version 3* legacy system, in preparation to utilise the new SDSS *version 4* system.

1.23 Fieldwork was conducted between October 2003 and mid April 2004. Five Issues Papers were provided to Defence in March 2004, followed by a Discussion Paper in April 2004. After provision of the Discussion Paper, to Defence, the ANAO was advised of the SDSS Get Well Program. Details of this Program have been reported in this audit, but have not been the subject of independent verification.

1.24 The draft audit report was provided to Defence, Finance and the Department of Prime Minister and Cabinet (PM&C), as well as to a number of private sector parties involved in the Project, in May 2004. In response to comments, further discussions were conducted with relevant parties in June and July 2004. The audit was conducted in accordance with the ANAO audit standards, at a cost of $368 000.

2. Approval Management

This chapter discusses the Defence approval and management methodologies applicable to the SDSS Upgrade Project.

DMO Project Approval Management

2.1 An effective project management method establishes a set of concepts and processes that form the minimum requirements of a properly managed project. The aim is to ensure project management is well organised and coordinated, and that those managing and sponsoring projects have clear responsibilities and accountabilities for project outcomes.

2.2 The DMO project management methodology has been evolving since the late 1980s. The Capital Equipment Procurement Manual (CEPMAN 1) was not a methodology as such, but did include guidance on project planning, risk management, financial management, tender evaluation, source selection and contract negotiation. Many of the requirements supported centralised control of projects and centralised decision-making through the Defence Source Selection Board.

2.3 As a consequence of the Government's Defence Reform Program (DRP) in 1997, the then Acquisition Program Executive directed that the then Defence Acquisition Organisation's (DAO) processes be reviewed and where appropriate, re-engineered to improve quality, cost, time and performance outcomes. As a result, the Business Process Re-engineering Project was set up in August 1997. When considering the scope of the project, Defence reported that the DAO Executive strongly supported the concept of a disciplined approach to project management, and recognised the merits of adopting a common methodology throughout the DAO.

2.4 PRINCE2, a commercial project management method was adopted for projects unless there was compelling reason for following a different methodology (on a case by case basis). Defence advises that the PRINCE 2 methodology was adapted to some extent to the Defence environment and, as such, was identified as the DAO Standard Project Management Methodology (SPMM). SPMM later became known as PMM. Defence further advises that PMM policy, procedures, guidance and templates were developed and made available to all staff via the Defence Acquisition Organisation Manual (DAOMAN), which later became the Defence Materiel Organisation Knowledge System (DMOKS) PMM. DAOMAN-SPMM, or DMOKS-PMM was an attempt to overlay a generic project management process on existing DAO/DMO processes.

2.5 The implementation resulted in duplication, as the generic processes based on PRINCE 2 were not adequately integrated with required Defence and Government processes. In particular, Defence state that requirements for accountability were confused by the role of the Project Boards (which could change requirements and budgets) required under PMM and various government requirements, especially on issues such as scope and budgets.

2.6 The current DMO project management methodology is PMMv2. This methodology builds on lessons learned from PMM, and also integrates the project management processes with other processes, including systems engineering, logistics and financial management. The methodology also incorporates recognition of government requirements, project governance processes, and processes performed by functional areas outside the DMO. Defence reports that all duplication has been removed, and PMMv2 is now DMO specific in nature.

2.7 The Project utilised a tailored version of the PRINCE2 project management approach. The ANAO concurs with a Defence report which found that, initially, the limited representation of customer and end user groups within the appointed Project Board may have worked to adversely influence action taken by the Project Office. That, in turn, may have reduced the Project risks. The Project did not utilise the SPMM methodology.

2.8 The Vice Chief of the Defence Force (VCDF) now sponsors the Capability Systems Life Cycle Management Manual 2002 (the Manual), which describes the Defence Information Environment (DIE), and defines the responsibilities of Defence organisations in the development, acquisition, delivery, support and disposal of systems within Defence. Prior to the availability of this Manual, the DPPM, supported by specific guidance describing the processes to be engaged when procuring goods and services via the different procurement mechanisms available, governed procurement policy for Defence.

2.9 Prior to the endorsement of the Manual by VCDF, differing Defence groups did not necessarily exercise the guidelines prescribed by the Defence Acquisition Organisation[26] when acquiring business information management systems, as there was no single, overarching Defence policy compelling them to do so. Consequently, the controls and requirements that the DMO brought to the practice of project management may not necessarily have been present in all acquisition projects.

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[26] The DAO was a precursor to the DMO. SDSS was initiated within Support Command Australia, which eventually became part of the DMO. During the Project definition and approval stages, the Project was not managed utilising a DMO management infrastructure.

2.10 The ANAO found no evidence to suggest that the differing customer organisations, authorised to procure business information management systems across the DIE, necessarily operate with the same procurement guidelines. The management controls over each project are thus likely to differ, and project management methodology and reporting requirements are also likely to be at variance.

Project Management and Acquisition Plan (PMAP)

2.11 The PMAP is the primary internal planning document required for a project, and includes the Integrated Logistic Support (ILS) plan, management plans and schedule plans required to achieve milestones identified in the Equipment Acquisition Strategy. Crucial planning elements that could have been addressed in a PMAP, that have a direct bearing on the performance of the Project, were not undertaken prior to Project Approval and implementation.

2.12 CEPMAN 1 suggests that a PMAP would have included, inter alia:

- statements of internal departmental management arrangements, and the responsibility and accountability of the Project manager in relation to relevant Defence authorities for the achievement of tasks and functions;
- a detailed schedule of events (based on the implementation schedule forecast in the Equipment Acquisition Strategy) which identifies specific responsibilities and estimated completion dates for the principal milestones for the Project;
- production and delivery schedules for prime and ancillary equipment and computer programs;
- arrangements for test and evaluation, and operational acceptance of the system under procurement;
- a list of major milestones, review points and the procedures to be followed for obtaining approval to progress the Project; and
- details of supporting arrangements used to report day to day control of the Project, including risk monitoring, and EVM reporting arrangements.

2.13 With the exception of the Equipment Acquisition Strategy, the ANAO found no evidence to suggest that, prior to Project initiation, any further elements of a PMAP were developed as per CEPMAN 1 guidelines.

2.14 Many of the elements associated with the PMAP were, however, developed during Stage One of the Project, following the award of a management contract to the PMO. The ANAO noted that the elements of a PMAP developed during Phase One of the Project were extensive, and satisfy the requirements stipulated by Defence in CEPMAN 1. The total cost associated with developing the PMAP management documents during Stage 1 of the Project was $4.65 million.

Approvals Process

2.15 The Defence process in place, at the time the Project was initiated, differed from the current Two Pass approval process for committing the Commonwealth to expenditure in excess of $20 million. CEPMAN 1 separates the respective categories of projects in terms of overall materiality. Table 2.1 is reproduced from CEPMAN 1, and defines the approval thresholds utilised by Defence at the of Project approval.

Table 2.1

Project Approving Authorities

Estimated Project Cost	Business Rules		SDSS Upgrade Project Compliance
	For an Estimated Total Project Cost	Approval Authority	
$27 million Equipment Acquisition Strategy July 2000.	Greater than $20 million.	Cabinet.	The Project did not obtain Cabinet approval.
	Less than or equal to $20 million.	Minister for Defence with the concurrence of the Minister for Finance.	The Project did not obtain Ministerial approval at any level.
	$8 million or less.	Minister for Defence.	The Project did not obtain Ministerial approval to commence.
	$5 million or less.	Secretary, Chief of the Defence Force and Program Managers.	The Project received Project Approval, in writing, from the Support Commander, Australia.

Source: CEPMAN 1 - Annex A to Chapter 7.

2.16 As was the custom in Defence at the time,[27] the Project was initiated, and managed, as a Minor Capital Equipment procurement activity. The Project approval did not follow either the documented approval methodology, or the procedural rigour required in preparing a Project Management Plan, as laid out in CEPMAN 1 for the inception, approval, management and delivery of a Strategic Project. This Project was not treated as a Major Capital Equipment procurement project within the applicable guidance available at the time of initiation.[28] The Project was not classified by Defence as a strategic project, and was not managed as a strategic procurement activity.[29]

2.17 Defence advised the ANAO in May 2004 that:

> Since the initiation of SDSSUP, the Defence Materiel Organisation (DMO) has been established with the imperative to deliver all major capabilities under the Major Capability Procurement process. The Kinnaird report reinforced this requirement. There is no doubt that in the current environment an initiative such as SDSSUP would be progressed within the Major Capability Procurement framework. Use of the Major Capability Procurement framework would deliver material improvement on the deficiencies in scope, schedule and cost identified in the discussion paper. The Major Capability Procurement framework has been implemented for the SDSS successor project JP 2077, the Military Integrated Logistic Information Systems (MILIS).

2.18 The strengthened Two Pass system was endorsed by Government in March 2004 to ensure Defence has a more developed understanding of complete project requirements prior to presentation for consideration for final Ministerial approval.

Requirements Development

2.19 CEPMAN 1 states that the PMAP should be developed, based on, and complimentary to, the Equipment Acquisition Strategy. CEPMAN 1 states that an executive volume, giving a management overview of the project, should be completed at the time of Project Approval, with subsequent volumes

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[27] Discussions with Senior Defence staff indicate that as a matter of course, Defence did not necessarily apply the procurement rules associated with procuring software intensive information management systems in accordance with extant acquisition policies.

[28] At Project initiation, the guidance for Project management was the Defence Procurement Policy Manual (DPPM) Version 2.1 July 1999. The DPPM refers to CEPMAN 1 for specific procedural processes. CEPMAN 1 Part 4 Paragraph 110 stipulates that at the time the Project was initiated, it should have been categorised as a Category 2 Major Capital Equipment Project.; that is, a complex, high value Project or collection of Project phases with unexpended Project funds of more than A$20 million and less than A$100 million.

[29] Section 1 Ch 5 para 508 of the DPPM Version 2.1 dated July 1999 states that characteristics of Strategic Procurement may include development of industry capability, procurement of items not previously purchased by Government and complicated or sophisticated contractual arrangements. The DPPM also states that Strategic Procurement is conducted in an environment of uncertainty where risks of program failure and/or high costs are severe, should the procurement action be unsuccessful.

developed as the project advances. Major elements of the PMAP should have included the Integrated Logistics Support Plan, a Financial Management Plan, and a Transition Plan.

2.20 A PMAP executive volume was not developed prior to the Project Approval.

2.21 Technical system integration and operability specifications, describing the standard operating environments required for the SDSS to operate on Defence networks, were not developed as part of the PMAP. However, these could have been developed and maintained by a central authority, for the use of all Defence projects delivering systems required to operate on enterprise-wide information systems. Failure to consult this guidance, at the requirements definition stage of a project, would necessarily increase the risk profile associated with the delivery of any such project.

Financial Approvals

2.22 Delegates considering an approval leading to the expenditure of public moneys must first ensure that they have the appropriate authority and understand the conditions that may be relevant to exercising that authority. In the absence of such authority, a delegate cannot exercise an approval that effects the expenditure of public moneys.

2.23 Delegates, authorised to approve a procurement method, are to give approval only where satisfied that the method chosen will promote efficient and effective competition, to the extent practicable. These delegates are also obligated to satisfy the requirements of the Financial Management and Accountability Act 1997 (FMA Act) Regulations. That is, they are required to ensure that a spending proposal is not approved, unless the amount of uncommitted appropriation and uncommitted forward estimates are identified, and available.[30]

2.24 Delegates able to approve the undertaking of a liability (committing the Commonwealth to the expenditure of funds) are to give approval only where they are satisfied that:

- approval has been given by a duly appointed proposal approver;
- the details of the submission are consistent with the terms specified at the time of the proposal approval;
- the outcome of the procurement process will achieve value for money; and
- funds either have been or will be appropriated to meet the requirement.

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[30] FMA Act Reg 10, as it stood at October 2000.

2.25 The funding route embarked upon for the Project was complex. At the time the Project was being considered for approval, Support Command Australia was undertaking several related projects designed to improve the management of logistics across Defence.

2.26 Defence advises that, in late 1999, the then Minister for Defence met the Defence Executive members and, amongst other things, agreed that there needed to be some urgent improvements to Defence Logistics Information Technology, and that funding should be provided. Defence further advises that the Commander, Support Command Australia, was directed to establish a business case for this funding, notionally $40 million.

2.27 In December 1999, the Defence Capability Sub-Committee approved $16 million to equip Army units with the then current version of SDSS under Joint Project 126 Phase 2A. Also at this time, the Defence Executive approved a further $15.87 million, to improve SDSS by implementing an enhanced version of the commercial software package, under the Project, utilising Support Command operational funding. The Project was to be known as MIS 0023.

2.28 In February 2000, the Defence Executive was briefed on the mid term review of what was then known as Support Command Australia. The brief included judgement that further investment in Logistics Information Systems was warranted. A submission was forwarded to the Minister for Defence in April 2000 seeking investment of $23 million to improve logistics effectiveness, and to provide estimated annual savings of $40 million. This submission identified that Defence had already funded the Project to the extent of $16 million, and sought an additional $11 million to meet the Project Equipment Acquisition Strategy estimate of $27 million.

2.29 The submission was subsequently returned in July 2000, unactioned by the then Minister for Defence. Also at this time, Defence was provided with $40 million from the Government for Defence Management System Improvements (DMSI) in 2000–01.[31] Defence advised the ANAO in May 2004 that:

> In making the decision to apply funding for this purpose, it is understood that the Department of Finance rejected the business case in the April 2000 submission which would have directed the bulk of the $40 million to logistics information systems improvements.

2.30 The DMSI funding was allocated to improvements in the Defence financial management system, ROMAN, specifically:

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[31] The DMSI appropriation is articulated by the Defence Portfolio Budget Statements 2000–01. The DMSI funds were approved for expenditure on corporate management systems, and were not to be expended unless Ministerial approval was given. The submission that defined the intended use of the DMSI funds was to be brought forward by 31 July 2000.

- to produce of end of year financial statements within 10 working days by July 2001;
- to provide an ability, by October 2001, to supply to the Defence Investment Committee quarterly reports within five working days of the end of the month; and
- to reduce the personnel and operating costs of managing and maintaining these systems by 50 per cent by the end of 2001–02.

2.31 The ANAO did not review the outcomes of the DMSI funding initiatives, as they fell outside the scope of this audit.

2.32 The new proposal was located within Project JP 12 Phase 1, which subsequently became Project JP 2077. Of the $23 million required for Project JP 2077, $11 million was required to fund two elements associated with implementing the Project. Subsequently, Project JP 2077 was approved at $23 million in July 2001.[32]

Project Approval Management

2.33 CEPMAN 1 notes that, following the development of a Defence Force Capability Proposal (DFCP), the Project Equipment Acquisition Strategy should clearly specify the method of procurement, the appointments exercising procurement authorisations, the schedule of planned events, and how local industry is to be involved in a project.

2.34 When this project was being considered, CEPMAN 1 states that the Defence Source Definition Committee (DSDC) (latterly known as the Defence Capability and Investment Committee (DCIC)) should have endorsed the Equipment Acquisition Strategy. This should occur prior to the final consideration of the Major Capability Submission by the Force Structure Policy and Programming Committee, that is, prior to Project Approval. The ANAO found no evidence to suggest that either of these activities were undertaken.

2.35 The cost of the Project identified within the approved Equipment Acquisition Strategy was $27 million. The approval of an Equipment Acquisition Strategy does not incur a financial liability. However, noting the scope, and level of materiality associated with the Project, application of the policy outlined in both the DPPM and CEPMAN 1, identifies that it qualified for treatment as a *Category 2* Major Capital Equipment Procurement Project. To that end, CEPMAN 1 states that the authority to financially commit the Commonwealth should have been issued by the Deputy Secretary Acquisition

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[32] The 2004–14 Defence Capability Plan identifies Phase 2B (YOD 2004-05) will fund the acquisition and roll out of the Improved Logistics Information System for an estimated expenditure of between $100 million and $150 million for delivery in the period 2007 to 2009.

and Logistics, now known as the Under Secretary Defence Materiel (USDM), and only then, after consideration by the DSDC, and Cabinet Approval. The ANAO found no evidence to suggest Ministerial, or indeed Cabinet approval, was sought or given to implement the Project prior to Project Approval.

2.36 Defence advise that the CEPMAN 1 provisions were not, at the time, applied to Information Systems Management Projects. The ANAO observes that the use of CEPMAN 1 in this regard, does not accord with the guidance offered relating to strategic systems.[33]

2.37 The Liability Approver within JLSA utilised their operating budget to fund the Project. In doing so, the method adopted did not accord with the Strategic Equipment approvals methodology, and the application of the planning rigour specified by CEPMAN 1 for projects of this nature.[34]

2.38 The 2000–01 Defence Portfolio Budget Statements identified capital funding of $40 million for corporate management systems in support of the introduction of a new resource management framework, which included purchaser/provider arrangements to be expensed in the 2000–01 financial year. This funding supported the SDSS and linked logistics projects as outlined in Table 2.2.

Table 2.2

Supporting Logistics Projects: 2001–02 to 2003–04

Project / Task	2001–02 Actual ($m)	2002–03 Actual ($m)	2003–04 Planned ($m)	Total ($m)
Master Supplier Register Project	0.100	1.633	0.250	1.983
SDSS Data Quality Project	0.305	2.276	0.848	3.429
SDSS Resource & Output Management & Accounting Network	0.786	0.614		1.400
Total	1.191	4.523	1.098	6.812

Source: Defence Management Systems Improvement October 2003 Finalisation Report.

[33] CEPMAN 1, Part 1, Para 308 states that the requirement to identifying a Major Capital Equipment Project includes a Project where there are significant Defence Policy or Joint Service implications, or where all one time costs incurred in bringing capital equipment into operational service and providing the first three years spares is $20 million or more. The fiscal limit sets a firm criterion flowing from a Cabinet requirement to view large Projects. The criteria associated with being a significant Joint Service improvement could have been considered and reviewed by the Defence Committee processes.

[34] Defence policy (Defence Procurement Policy Manual Vers 2.1 dated July 1999 Section 5 Ch 4 para 418) states that the Proposal Approver must be satisfied that sufficient budget allocation remains available in the Annual Liabilities Program to cover the approximate cost of the entire proposal. The ANAO noted that, of the $27 million identified in the Equipment Acquisition Strategy, as required to implement the Project, only $15.87 million was initially allocated for the task.

2.39 The Project Equipment Acquisition Strategy was approved for implementation at a value of $27 million in July 2000. The ANAO found no evidence to suggest that a Defence Force Capability Proposal, or indeed a Major Capital Equipment Submission, was developed in support of the Project. Had the Equipment Acquisition Strategy been reviewed in accordance with CEPMAN 1 requirements, the Equipment Acquisition Strategy would have led to the development of a PMAP. Defence advises that, at the time this Project was initiated, business information management systems were not treated as Major Capital Equipment procurement activities.

2.40 The requirement to develop project cost estimates is valid throughout a project's life cycle, in order to provide decision makers with a credible and reliable basis for approving, varying and rejecting projects. A project manager's ability to manage within the approved project cost relies heavily on the accuracy of cost estimates produced in the unapproved stage of a project's development cycle.

2.41 CEPMAN 1 states that the Project Cost Breakdown Structure (PCBS) is the most appropriate method of selecting and arranging the complete set of cost elements for Defence Projects.[35]

2.42 The development of the Project Equipment Acquisition Strategy was largely based on a report commissioned of PwCC to review the requirements to upgrade the SDSS, in an effort to implement a single supply chain management methodology across Defence. The ANAO found no evidence to suggest that a PCBS, as defined by CEPMAN 1, was developed to validate the findings of that report, in support of the Equipment Acquisition Strategy for the Project, prior to project approval for implementation.[36]

2.43 Strategy and timings developed in the Equipment Acquisition Strategy provide the basis for the Project Plan used by the Project Office. The Project Plan does not qualify as a well-defined, comprehensive PMAP as per the requirements set out in CEPMAN 1.

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[35] A PCBS is a detailed cost framework that incorporates; detailed costings based on the Project Work Breakdown Structure, a composite of cost elements that completely define the Project, a definition of the relationship between cost elements and the work to be completed, a definition of the relationships between the cost elements to each other and to the end product, and an identification of costs down to the lowest level possible given the cost and activity level available.

[36] CEPMAN 1, Part 3, Ch 5–*Cost Estimating in Capital Equipment Projects* defines the requirements associated with conducting a cost estimation process. This process is required before implementing an Earned Value Management (EVM) system, and for estimating specific risk based contingency funding.

Recommendation No.1

2.44 The ANAO recommends that Defence adopt approval processes for business information management systems that align with processes used for other major capital acquisitions.

Defence Response

2.45 Defence agrees with the recommendation. Defence advised ANAO it was agreed for future projects.

3. Governance

This chapter discusses the Governance environment in which the SDSS Upgrade Project was managed, drawing attention to the reporting mechanisms used during the upgrade, and the concurrent management of risk.

Background

3.1 The original SDSS was introduced by the Supply Systems Redevelopment Project with the aim of establishing a standard supply system within the ADF. When delivered, however, Defence lacked an integrated logistics management outlook. As a result, SDSS developed three distinctly different sets of business processes to meet the requirements of the three individual Services. To that end, the business procedures utilised to operate SDSS by Army, Navy and Air Force were divergent. The SDSS *version 3* system was used to support operations in the War in Iraq, and is reported to have supported what was a significant task in the Middle East. It involved supporting a complex mix of ADF units with vastly differing needs, spread over a wide area.

3.2 SDSS remains a key element that supports Defence's operational capability. The ability to ensure the right support is available at the right time, in the right place, is central to operational success on the battlefield, at sea, and in the air. The system in place, that the Project sought to upgrade, did not adequately track deployed assets, and did not adequately support operational requirements. As well, the system did not support best practice business use as it applied to inventory management, and did not deliver the savings forecast by Defence, by its intention to optimise inventory holdings.

3.3 The ANAO found that, during the rollout phase, the cultural changes required, to bring about the adoption of the new system operating methodologies, were not accomplished by either the Project Office, or the Senior User Group. Defence advise that the ownership and leadership, required to implement the changes to the supply chain, may never have been the responsibility of the Project Office, and that the business owners, through the Senior User Group, were delivered the tools and other wherewithal to manage their own cultural change requirements.

Defence Information Environment

3.4 The Defence Capability Plan has focussed on information capabilities as a separate capability grouping, to ensure that these developments receive the focus and priority they deserve. Specifically, the Defence White Paper, released in 2000, stipulates that the improved command arrangements and systems are essential to Defence's ability to deploy and operate effectively, in complex

environments, and at short notice. It states that of the key investments planned over the coming decade, an integrated personnel, logistics and financial system based on e-business principles is required.

3.5 The Defence Information Environment Committee (DIEC) was reconstituted with the CIO[37] as Chair, and given primary responsibility for coherence of Defence's information management. The DIEC reaffirmed the scope of the DIE to encompass intelligence, surveillance, communications, information warfare, command and headquarters systems, and management (logistics and business) applications. It, subsequently, amended the scope to include electronic warfare, and agreed a definition of the DIE as the 'aggregation of information, individuals and the systems in Defence that create, collect, process, disseminate or deny this information'.[38]

3.6 Defence now states that each system which affects the DIE requires its own architecture, and which is described by the following sets of descriptors or views:[39]

- an operational view, which constitutes a description of the activities, organisational elements and information flows needed to achieve an operational or managerial outcome;
- a systems view, which includes system graphics and identifies interfaces supporting operational or managerial functions;
- a technical view, which describes the technical guidelines and standards that determine how the architecture of the future capability will be implemented; and
- a common view, which is a description of the information that is essential to the development and application of the other views.

3.7 Governance of the Defence Architectural Framework is undertaken by the DIEC. In doing so, the DIEC is responsible for ensuring:[40]

- accountabilities are in place for establishing the Enterprise Architecture (EA), auditing compliance with the EA and maintaining the configuration of the EA;
- changes to the DIE are in accordance with approved policies and standards of the EA; and

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[37] From September 2002, the Office of CIO was enlarged to include the Knowledge Systems Division. The Defence Committee indicated that this integration reflected its strategic intent of establishing an explicit, authoritative joint direction for the DIE that is critical to achievement of the Force 2020 vision.

[38] Minutes of the DIEC meeting 10 September 2002.

[39] Capability Systems Life Cycle Management Manual 2002 para 6.65.

[40] ibid, para 6.67.

- the development of the EA and architectures at other levels is coordinated.

3.8 The DIEC did not oversee the management of the DIE when the Project was approved. Consequently, there was no level of DIEC involvement with the Project. Defence advised that for all future business information system programs, the DIE will be maintained at a working level through governance exercised by respective Domain CIOs. They will, in turn, work for specific EBPOs, and, concomitantly, exercise a technical authority role on behalf of the CIO.

3.9 The respective Domain CIOs are responsible for:

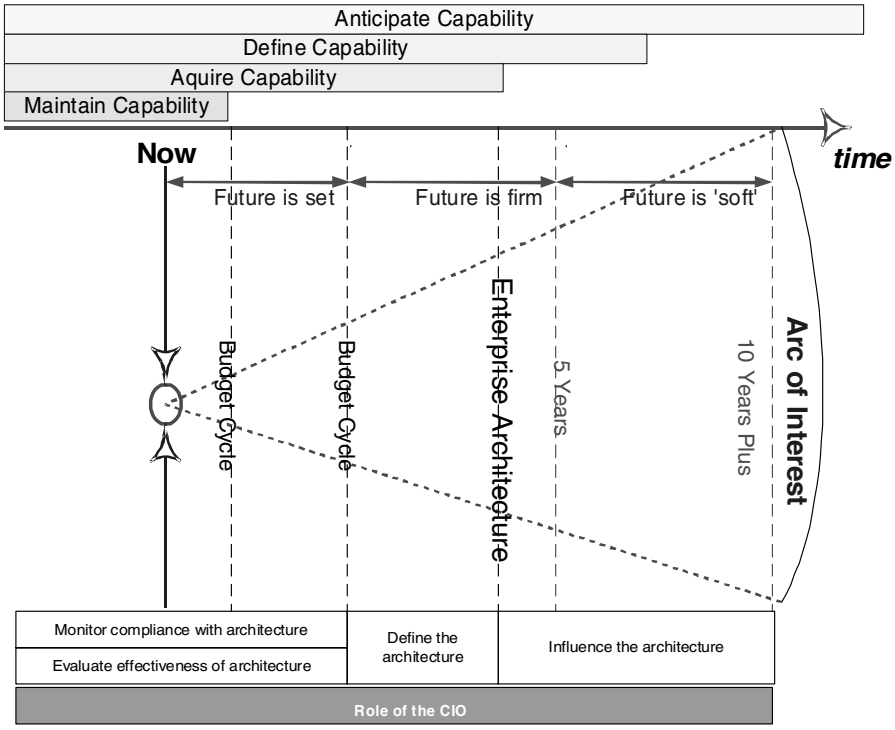
- coordinating information and system requirements and development on behalf of their EBPO;
- advice on the application of technologies to enable and improve the business processes;
- coordination with other functional areas to ensure that Defence-wide information requirements are addressed, when developed for the particular EBPO; and
- management of the Enterprise Architecture.

3.10 The Defence architectural environment that existed when the Project was initiated was disparate in nature, and not centrally managed. Figure 3.1 indicates there is now a structured and balanced approach to the acquisition, maintenance and future direction to be taken in managing the DIE's hardware and technical infrastructure.

3.11 The governance of system upgrade and development activities for delivered, operational systems, is not well articulated by the current governance structure. The interface between the RAN Systems Command, other Defence Groups and Service Providers, and the CIO is not well documented, and is still evolving.

Figure 3.1

Defence Information Environment Division Management of Responsibilities



Source: Defence CIO response to an ANAO issues paper in February 2004.

3.12 The DIE initiatives for financial years 2003–04 include, inter alia, that MISD is to produce a replacement plan for SDSS.

Project Board

3.13 At initiation, through Phase 1, and into Phase 2, the Project did not operate with a formally appointed Project Board, even though the Equipment Acquisition Strategy recommended the appointment of a formal Board. The Project Sponsor and Senior Supplier provided Project oversight and direction. User groups were not represented on the Board until July 2001. Until this time, Project trade offs were being negotiated at Project Board level in the absence of an end user on the Project Board. The Board, once formed, met six times during 2001, and twice during 2002.

3.14 A Defence report found that the responsibilities afforded the Project Board were unclear, which contributed to additional Project staff effort to manage funding, resource provision and scope issues. Service Level Agreements between the Project and internal Defence service providers were not formalised, which also contributed to Project delays.

3.15 The original Governance Board, constituted in 2000, included representatives as depicted at Table 3.1.

Table 3.1

Project Governance Board

Organisation	Role
COMSPTAS–later Head of Management Information Systems Division	Board Executive and Chair
Commander Joint Logistics Support Agency–later Director General Materiel Systems	Senior Supplier
Support Command Navy, Air Force and Army - latterly DMO Division Representatives	Senior Users

Source: SDSSUP Project Closure Report.

3.16 Defence reports that the initial Governance Board membership did not constitute a wide representation of end user interests, and did not encompass co-membership from Boards governing interdependent projects. The members of the presiding Board in 2001 agreed that interrelated projects were being adequately managed by JLSA. Throughout the course of the Project, however, the interdependencies associated with required deliverables from Defence sources, outside the control of the Project Office, became critical path deliverables. Ultimately, these drove the Project schedule to exceed allocated allowances.

3.17 The institution of the Logistics Information Systems Project Governance Board in December 2002 was unable to ensure the success of the Project. This overarching Governance Board was to operate under DMO Guidelines. It was to be responsible for the strategic management of a range of projects, and oversight of significant schedule, scope and budget issues that impinged on this, and other related projects. The proposed vehicle for stakeholder acceptance, and assurance of Project outcomes, was to be managed by the formation of a One Star level Project Management Steering Group. The specific Project Management Steering Group incorporated the membership of the previous Project Board, albeit with stronger end user influence. The Logistic Information System Project Governance Board did not review the Project's progress until early 2003, by which time, all major decisions had been made by both the Executive, and the Project Management Steering Group.

Divisional Reports

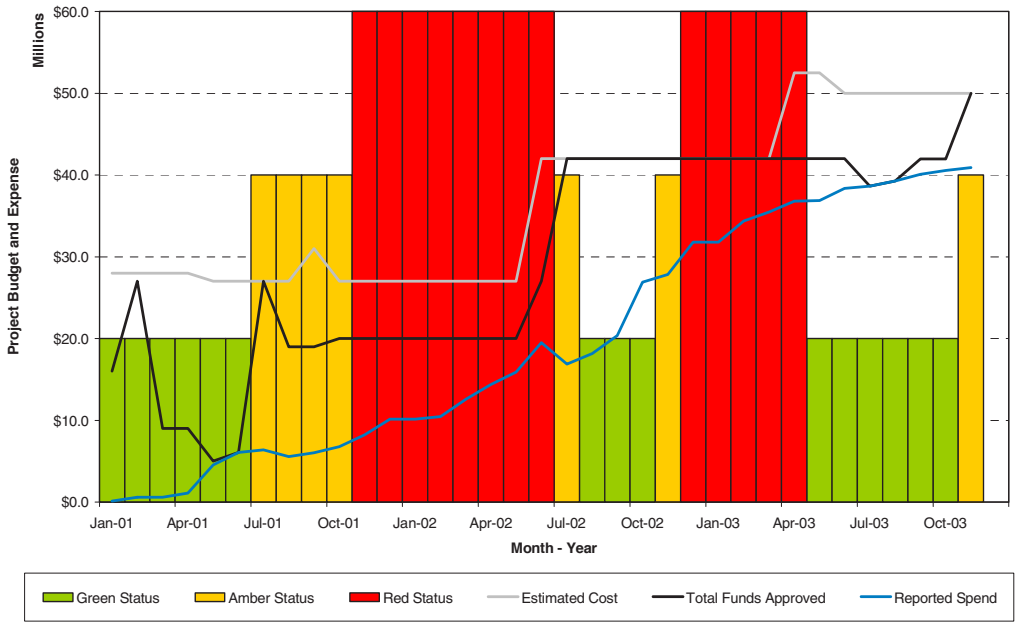
3.18 MISD policy now requires that all MISD proposals and projects are to be undertaken, documented, managed, controlled and reported in accordance with the MISD PMM, and documented using PROMAN or PROMAN Lite, as

described in the Project Managers Handbook. As part of PROMANv5.2 reporting requirements, the Project Manager is to submit a monthly highlight report that summarises current Project progress. Data is extracted from the highlight reports for each project to form the monthly MISD Projects Program Report. Although not formalised in MISD policy until December 2003, it appears as though the Project Office has complied with this reporting methodology since its initiation in 2000.

3.19 Project health is assessed against project-approved tolerances for scope, schedule and cost on a scale from GREEN (project within approved tolerances) to RED (project outside approved tolerances and requiring executive direction). As illustrated in Figure 3.2, the Project was assigned RED status on several occasions. On a number of these occasions, the Project's health status was upgraded to GREEN by changing the approved Project scope, schedule and/or budget. Subsequent reporting was made against the revised baseline.

Figure 3.2

MISD Projects Program Report for SDSSUP



Source: MISD Projects Program Reports, 2001-2003.

3.20 The effect of an increase in the approved budget on the Project's health status is illustrated by the change from RED to GREEN during July 2002. The reporting upgrade coincided with the in-principle approval by the DCIC, in July 2002, for a $15 million Real Cost Increase (RCI) to the Project's budget, subject to Ministerial approval, and $5 million in interim sustainment funding. Subsequently, the August 2002 Project highlight report recorded the Project as

'On Schedule' and 'Within Budget', and MISD reported the Project's status as GREEN. Throughout the progress of the Project, the estimated cost can be seen to be continuously increasing.

3.21 The requirement to re-baseline following remedial action, and then monitor project progress against that new baseline, is a valid means of monitoring current project performance. However, project governance would be enhanced by the maintenance of overall performance data, utilising the original, approved baseline. In retaining this level of reporting, a history of management capability can be retained, which could, if needed, provide a level of confidence associated with current and future project performance.

Recommendation No.2

3.22 The ANAO recommends that Defence review the Management Information Systems Division traffic light reporting methodology to ensure that, project progress is assessed in terms of both current and original baseline information.

Defence Response

3.23 Defence agrees with the recommendation.

Configuration Control Board (CCB)

3.24 The members of the Project CCB were appointed to the Board to accept or reject proposed changes to the deliverable software products, during the course of the software development and build process. The CCB endorsed changes to the approved configuration of the proposed deliverables in light of associated Project cost and schedule changes.

3.25 The CCB was convened utilising formal terms of reference. The CCB was empowered to approve or reject configuration changes against any formally agreed scope, schedule or cost guidelines. Notwithstanding these guidelines, the Project Board did not provide adequate guidelines against which the CCB could act to define configuration issues to the Project Board in terms of scope, schedule and cost risk. A Defence report notes that the members of the CCB may not have fully understood all the issues they were asked to consider, in an effort to balance customer satisfaction against system operability following delivery.

Risk Management

3.26 The Project Risk Plan was reviewed at regular intervals by the supervisory body that acted as the Project Board, and the Project Office. No monetary or schedule values were assigned to the risks identified within the plan. Decisions relating to the actions undertaken by the Project Office, in an

effort to contain schedule and cost excursions, often occurred at the expense of Project scope. The decision to reduce scope may have been avoided, had action been taken early within the Project to manage the emerging risks, in an environment where the potential schedule and cost variations associated with various competing options had been identified.

3.27 Contingency funding is an appropriate method to prepare for out of scope events that may result from unforseen requirements within high risk, software intensive projects. The Project was approved and initiated without adequate allowance for contingency risk.

3.28 The Project Office commissioned a report that separated the major product delivery risks into three broad categories, spanning the operational risks, technical risks, and organisational risks. These risks impinged on the probability that the Project would be delivered on time, within scope, and within budget. Ultimately, the Project Board, via the Project Office, was responsible for management of these risks.

Operational Risk

3.29 Operational risk relates to the ability of the end product to be operated by the targeted end user, in the manner that was required at the outset of the Project. In managing these risks, the ANAO noted that the main impact driving the success of the product with the targeted user group, was an understanding of the functionality and operability of the system, as it applied to their specific requirements.

3.30 The ANAO notes that the Project Office was reliant on the outcomes of other projects, including the Data Quality Project, and the ROMAN/SDSS automated link, for Defence to satisfy end user expectations at Project delivery. Defence commissioned a report in 2002 that identified, inter alia, that the delay of the automated SDSS link with ROMAN was a key disappointment with end users. The report notes that the decision to delay progress with the interface, was based on an Operational Risk Assessment relating to the data quality required for the link to have any real meaning for accounting use.

3.31 That same report found that, when the Architectural Technical Proof Of Concept (TPOC) was undertaken, the Defence supplier responsible for the eventual system operability on the Defence network was unable to participate to the full extent required of it by the Project Office.

3.32 The Corporate Services and Infrastructure Group - Information Systems Division (CSIG-ISD) was a member of the Project Board, and the Senior User Group, yet was reported to have demonstrated a reluctance, or an inability to fully participate as required by the Project Office in designing, testing and specifying the TPOC. The Project Office accepted this risk, by not immediately implementing an approval process that took the TPOC methodology and

results, and presented them to the system administration authority responsible for operating the Defence infrastructure.

Organisational Risk

3.33 Organisational risks focus on the risks faced during and following product development and delivery, as they pertain to the organisational acceptance of the decisions being made by the Project, and the acceptance of the end product for implementation.

3.34 A report commissioned by the Project Office in February 2002 identified serious organisational risks. These risks were comprised of:

- user expectations that exceeded approved Project scope for product delivery;
- an absence of awareness of Project scope at senior levels of the three Services;
- insufficient Defence logistics policy guidance to define the requirement for implementation of business rules within the upgraded SDSS product in definition of the Single Supply Chain Management requirements;
- underestimation by key stakeholders of the organisational impact associated with the implementation of the designed capability to be delivered by the Project;
- PMO remuneration payments for time spent with delays, brought about by the Project Office's inability to honour Defence supplier commitments to meet agreed schedule deliverables; and
- insufficient support for the Project Board, relating to decisions on risk, scope, technical issues in the absence of adequate consideration by the end user stakeholders.

3.35 In addition, there was significant organisational risk associated with securing funds to complete the Project from the various Defence funding sources.

Technical Risk

3.36 The Project Board acted as both a Technical Board, and a Project Governance Board. Had the Project Board, via the Project Office, instigated a Technical Board to break down technical risk issues into scope, schedule and cost terms, their role as the Project Governance body may have been more effectively accomplished.

Architectural Risk

3.37 One of the more significant technical risks that impinged on the Project was the risk that the architectural design may not be entirely suitable for operation with other inter-related projects, and external systems. The ANAO noted that initial support from important internal Defence suppliers to the Project, did little to obviate this risk. At the time of Project initiation, there was no apparent Defence Architectural Framework, and the Logistics Enterprise Architecture was at an embryonic status, providing little guidance. The Project had few approval authorities with which to validate the design and architectural interface capacity for Project deliverables. This presented an interoperability risk associated with the delivered products within the DIE. Consequently, many of the original inter-system links were delayed, or de-scoped[41] from the Project specification.

3.38 The involvement of Defence specialist suppliers with the Project design and specification work was, at first, limited. The lack of specialist engagement placed considerable financial and schedule risk on the Project Office.

Recommendation No.3

3.39 The ANAO recommends that Defence develop and promulgate a Standard Operating Environment upgrade plan. This plan would describe the technical, system, and operational standards to be adopted for management information systems over the short, and medium term.

Defence Response

3.40 Defence agrees with the recommendation.

[41] *De-scope* is a common Defence term used to describe project activities and / or contract deliverables that are eliminated from a project's original (or current) scope, which then may or may not be delivered and / or funded by an alternative project.

4. Project Management

This chapter discusses the project management aspects of the Project, and focuses on contractual considerations, as well as price and cost management.

Background

4.1 Finance was reported by Defence, in June 2000, to contend that it would be more cost effective to replace SDSS, rather than to upgrade it. Defence chose to continue to pursue the Project, and in doing so, having initially allocated funds for the Project from the Support Command Australia operating budget, sought alternative, additional funding sources. Funding was reassigned from Project JP 2077 once it achieved approval in July 2001, and then, following price excursions and extensive delays, from Defence's existing budget.[42]

4.2 Defence guidelines, associated with the conduct of a Major Capital Equipment acquisition, mandate the development of an Operational Concept Document (OCD), a Functional Performance Specification (FPS) and a Test Concept Document (TCD). These documents are usually developed to define the requirements associated with funding requirements for a project. The OCD, FPS and a TCD were not locked in place as outcomes of Phase 1 of the Project.[43] Without the OCD, FPS and TCD, the Project Office could not realistically enter into a firm fixed price contract, with early completion incentives coupled with milestone payment points, to control the software development activity of specified contractors.

4.3 The ANAO noted that the Project Office did not engage EVM project assessment and prediction techniques, nor cost schedule reporting system techniques, to manage payments to the chosen contractors implementing the

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[42] The Minister for Finance letter to the Minister for Defence dated 3 October 2002 cites concern relating to a greater than 50 per cent increase in the costs of the Project, along with a decrease in scope. The Minister agreed that a Project increase to the value of $15 million was valid, and that the increase was to be funded from Defence's existing budget.

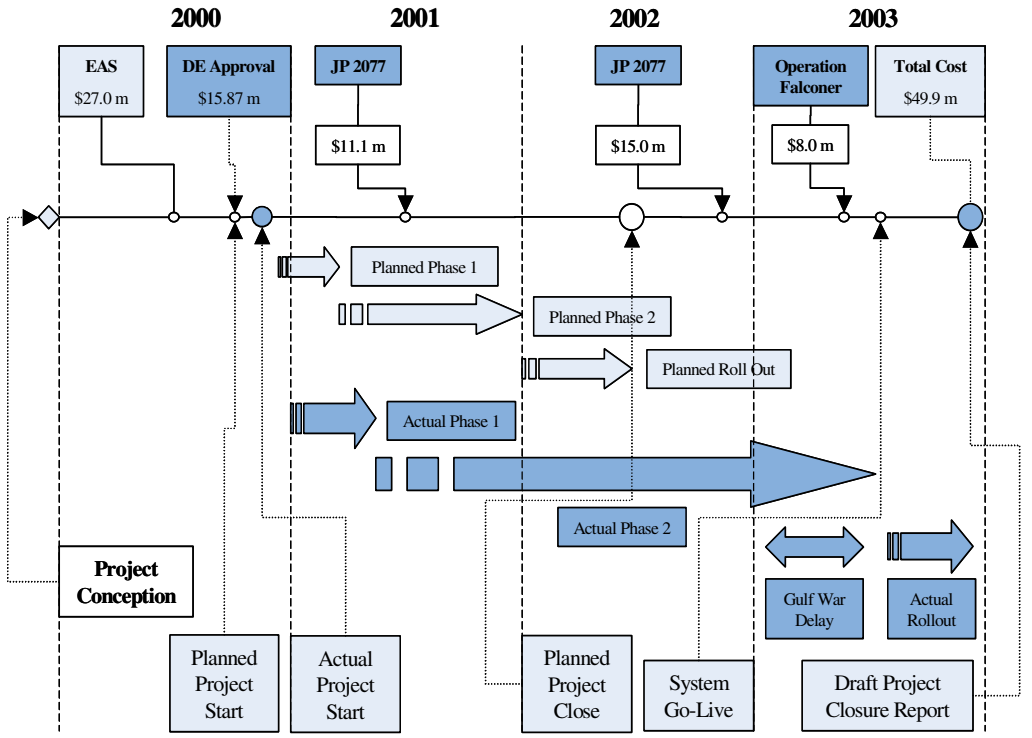
[43] Phase 1 of the Project examined and mapped the required business processes that required implementation within version 4 of the MINCOM software to effect the critical measures for success.

work.[44] The Project utilised a proprietary management system, and did not report the Project progress utilising the PROMIS or PROMAN systems.

4.4 Figure 4.1 represents the contrast between the planned Project activities, and the actual, realised Project milestone outcomes. Most evident from Figure 4.1 is the extensive delays experienced during Phase 2, the build, testing and training stage associated with the Project software deliverables.

Figure 4.1

Project Progress Map



Source: Constructed by the ANAO from Defence Finance and Project Management files.

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[44] EVM uses real time cost, schedule and actual measures of work schedules and work commenced to extrapolate Project cost variance, schedule variance, and the value of the work at the completion of the Project. EVM is recommended by CEPMAN 1 via the implementation of a Cost/Schedule Status Reporting (CSSR) system for all Projects with a value exceeding $20 million of more than 12 months duration. Earned Value:

- is a set of Best Practice Project Management Principles that integrate Cost, Schedule and Technical Performance;
- establishes objective measures of the actual work achieved compared to the plan for that work; and
- consists of two levels of application, Cost/Schedule Control Systems (CSCS) and Cost/Schedule Status Reporting (CSSR), the underlying principles of which are essentially the same.

Application requirements are defined in DMO policy, with the level of application decided depending upon contract value, risk and duration.

Project Management Contractor Source Selection

4.5 Defence went to industry for proposals to define the methods associated with upgrading SDSS in 1999. PwCC was awarded the contract to develop upgrade options for SDSS *version 3*. The PwCC report, delivered in April 2000, described the processes required to upgrade the existing MINCOM *version 3* SDSS product to a *version 4* software product, encompassing new business rules that would allow the upgraded SDSS to act as a single supply chain logistics management system.

4.6 In response to the ANAO Discussion Paper in April 2004, Defence advised that:

> The options at the time were assessed and rationally considered. In the absence of suitably qualified and experienced Commonwealth personnel, and the degree of risk that commercial integrators would accept, the contracting strategy was the appropriate decision. A formal registration of interest process was followed with three firms shortlisted for receipt of a request for tender. Of these three firms, one withdrew during the evaluation process. The performance of the contracted project manager is not a basis on which to criticise the acquisition strategy, yet no other evidence for the ANAO criticism is provided in the discussion paper.

4.7 The ANAO notes, however, that the project approval of $15.87 million was for an amount significantly less than that estimated for the Equipment Acquisition Strategy. In the Equipment Acquisition Strategy, the cost of management support was $5.2 million, but by November 2003, management support costs had amounted to $26.3 million. The ANAO also notes that it was Defence which decided to outsource the management of the Project and established a contract payment regime largely based on fixed cost deliverables, supplemented by payments which were renewed as required. This was despite Defence having minimal effective control over costs and the actual scope of the work (see also para 4.21).

4.8 Based on the PwCC Report, in which PwCC outlined the proposed methodology to be used by Defence to implement the full Project, Defence prepared an Equipment Acquisition Strategy to support an application for funding to implement the changes required to move from the *version 3* MINCOM product to the *version 4* MINCOM product, and implement a single supply chain solution across the user base.

4.9 Defence requested tenders for services to provide for both a PMO, and provision of training services.[45]

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[45] PwCC was engaged as the PMO for the Project following a competitive bid with CSC Australia. Dimension Data were chosen as the training development and delivery contractor, following a competitive contracting exercise with nine separate respondents.

4.10 The selection of MINCOM as the supplier for the development of specific product elements reflected the ability for Defence to exercise options associated with an existing service contract aligned with the delivery of the initial SDSS product.

4.11 The Project Office chose specific PMO staff based on their qualifications and demonstrable experience. As the Project uncovered additional requirements for skills not already held within the PMO, staff were engaged by the PMO against Project Office requirements, or engaged via extra management contracts with existing suppliers to the Project. Staff with specialist skills were engaged to assist in defining interfaces, for example, from expertise available from within MINCOM.

Product Development Contract

4.12 MINCOM was the only logical choice to engage as the delivery authority for the upgraded MIMS operating system. Defence took the decision to exercise an existing contractual in-service support agreement to implement modifications to the MIMS Operating Environment.

4.13 The scope of the required software development activities was not fixed prior to negotiating the fixed cost element of the contract.

4.14 The ANAO noted that the final system design had not been 'locked in' by the time coding work commenced. The scope of the required output changed frequently, to reflect changing requirements imposed on the Project by end user demands. The functional specifications were not locked into the functional design document. There were frequent changes associated with finance rules mandated by the DMO for upgrade.

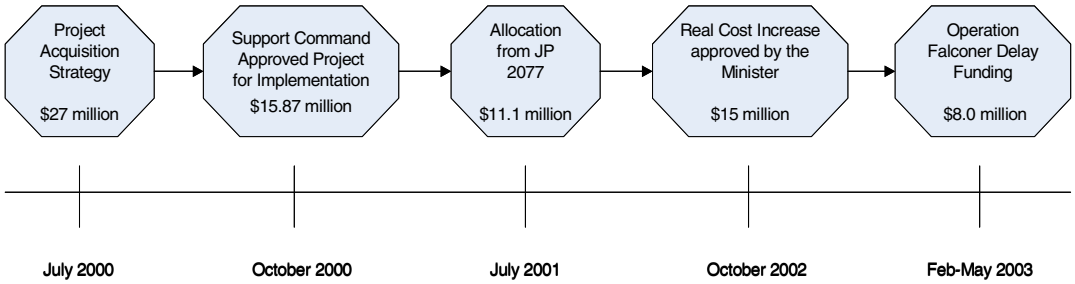
Price Escalation

4.15 The escalation of costs associated with the scope originally approved required additional funding.

4.16 Defence took the decision to fund the Project from disparate sources, initially from Support Command operational funding, and then from the emerging Project JP 2077. When it became obvious that the available Project funds were not sufficient to complete the Project, further funding of $15 million was approved by the Minister for Defence with the Minister for Finance's concurrence in October 2002. When rollout threatened system operability during the Defence deployment to Iraq in early 2003, Defence delayed rollout, on two separate occasions, which increased the Project cost by a further $8 million. The Minister for Defence approved the further $8 million cost increase. Figure 4.2 represents the funding approvals time line.

Figure 4.2

Project Funding Approval

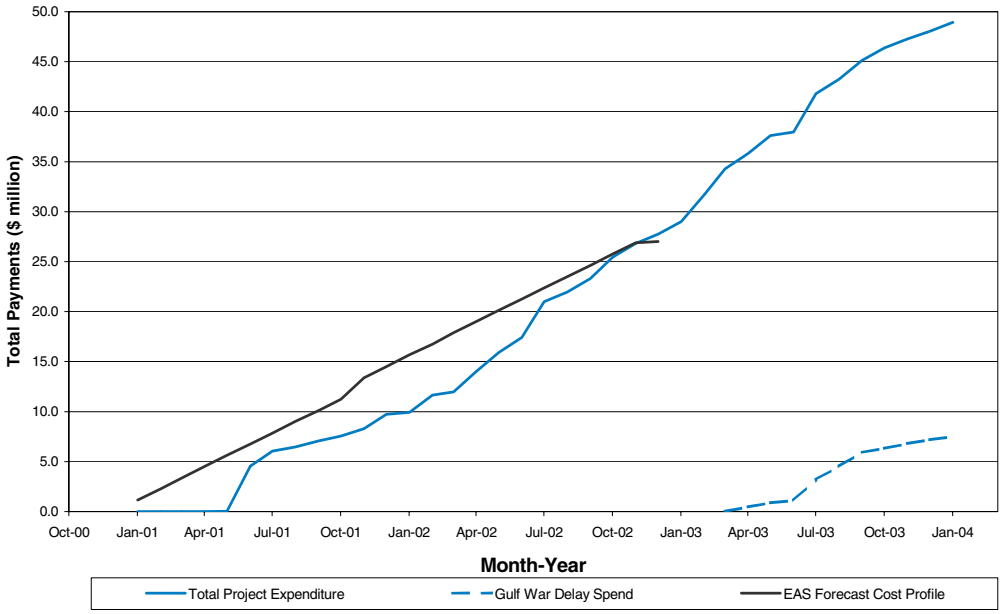


Source: Defence financial records.

4.17 Substantial funding over and above the approved expenditure line was required to maintain Project momentum. Approximately $26 million was provided for via Project JP 2077 Phase 1. In addition to this funding, an additional $8 million was afforded the Project from MISD operational funding to cater for delays incurred as a result of Defence's inability to meet contractually agreed commitments. The spend rate of these funds is represented at Figure 4.3.

Figure 4.3

Project Expenditure Profile–January 2001 to November 2003



Source: MISD Financial Data dated 27 November 2003.

Real Cost Increase

4.18 The Project Office requested additional funding to the value of $3.7 million in September 2001, and forecast a completion date, without foreseeable rollout delays, of March 2003. The predominant reasons cited by Defence for the delay in schedule, and the subsequent growth in costs as of September 2001, are represented in Table 4.1.

Table 4.1

Mid Project Delay Analysis: September 2001

Activity	Predicted Schedule Delay
Development of Defence Specific Code by Defence Information Systems Group (DISG)–now CSIG-ISD.	4 months critical path growth on an existing 3 month schedule lag.
E-Procurement	1.5 months of discovery analysis on top of 3 months of existing schedule lag associated with incorporating Defence requirements into the contract for delivery.
Acceptance	Slippage associated with baseline approval for Phase 2 of the Project was 5 months, delaying analysis and scoping activities associated with development of a MIMS software solution.
MINCOM	Delays in mainframe availability to support MIMS operating environment build activities resulted in an eight week delay, added to an additional delay of two months required to define and negotiate scope changes.
PMO	Schedule changes were calculated to meet a March 2003 delivery date.

Source: Defence report dated September 2001.

4.19 Defence attributed delays associated with contracted software build activities to:

- a lack of competitive advantage in dealing with the software supplier;
- a lack of monitoring and acting on software metrics provided by the software development contractors; and

- the required enhancements from customers represented by Defence end users were not mitigated against a nominal ceiling proposed or endorsed by the Project Board. The level of post contractual customisation of system specifications led to higher than expected costs and schedule delays.

4.20 The ANAO found that Defence did not effectively monitor, predict, and manage cost and schedule variances based on the actual cost of work performed, the budgeted cost of work scheduled, nor the budgeted cost of work performed.

4.21 The Project Office should have been aware, in February 2002, that funding was insufficient to complete the scope identified as critical success measures for the Project. The Project Office, in the second half of 2001, informed the Project Board that the Project was $4.8 million short of funding. The Board took the decision to proceed with the existing management arrangements in light of unresolved schedule issues. The Proposal Approval amount for the Project was already at $28.1 million in February 2002, and the approved liability at $24.0 million. The expenditure at that point was $12.7 million.

4.22 The ANAO constructed a cash flow analysis, using data available to the Project Office in February 2002, with simple regression analysis tools. The Phase 2 spend rate of the Project could have been estimated to continue linearly, noting the level of effort being applied to work being undertaken was reasonably steady. The spend rate was approximately $1.8 million per month. From the data available, the ANAO consider that the Project Office should have been aware that, without supplementation, the approved Project funding would have been exhausted by August 2002.

4.23 An application for an RCI was made to the DCIC in July 2002, and then to the Minister in October 2002. The submission to the Minister requested an additional $15 million to allow the Project to continue. The options, that were considered at the time, ranged in cost from $10 million to $28 million.

4.24 The DCIC brief noted that the Project would shut down if funding were not made available by August 2002. The Committee was concerned that the funding would run out within six weeks of the DCIC meeting; whereas it would take anywhere up to 12 weeks to secure Ministerial approval for the variation in scope.

4.25 A cap of $20 million was recommended to the DCIC by MISD, in an effort to ensure the turn around time for approval could be achieved, in the time frame required, to ensure continuing contract liquidity. By capping the total expenditure to less than $20 million, the DCIC briefing document states that only two Ministers needed to sign off on the proposed RCI, rather than waiting for Cabinet approval for an RCI proposal in excess of $20 million. As

result, some functionality, initially identified as part of the upgrade, was de-scoped to ensure the options chosen as part of the RCI could be funded at a level that did not require Cabinet approval.

4.26 Funding to the value of $5 million was made available in July 2002, as an interim measure from the Defence Budget to allow the Project to continue. The Minister for Defence received a briefing relating to the shortfall in the Project's funds in September 2002. Defence requested approval to implement an RCI to the Project of $15 million to undertake the options approved by the DCIC, and to seek the Minister for Finance's approval. Final Ministerial approval from the Minister for Finance was received in early October 2002. The breakdown of major elements of what was achieved by the RCI is:

- an increase to the PMO Phase 1 budget to the value of $249 861;
- an increase to the PMO Phase 2 budget to the value of $6 379 189;
- an increase to the costs associated with implementing training to the value of $4 634 822;
- an increase to the costs of the MIMS OE software build services to the value of $2 660 147;
- an increase to the cost of Defence specific code development to the value of $1 466 424;
- an increase associated with development of business processes to the value of $877 716;
- an increase to the Financial Management functionality to the value of $250 000;
- a decrease in the funding allocation set aside for upgrading the hardware the system was to operate on to the value of $2 106 193;[46]
- a saving in the area of electronic business tools to the value of $406 736;
- a decrease in the cost of technical services associated with data cleansing to the value of $390 002; and
- a decrease in the cost of the configuration management tool construction to the value of $148 431.

4.27 The ANAO found that, prior to the exhaustion of funds available, Defence did not obtain the necessary Cabinet approval to permit the Project to

[46] Subsequent systems performance issues would suggest that the decision not to implement system hardware upgrades has diminished end user satisfaction with the overall performance of the system post delivery. The anticipated costs associated with fixing this issue, not including Defence staff wages, is a further $3.85 million.

complete the full scope of outstanding work. Defence reduced the scope of the Project to ensure funding was made available in sufficient time to support extant contractual agreements. The adopted methodology required approval by the Minister for Defence, and the Minister for Finance, obviating the requirement for consideration by the full Cabinet. The reduction in scope served to diminish the system's capability at delivery.

4.28 The ANAO noted that contingency funding was not requested, nor allocated, as part of the RCI.

Cost Estimation and Control

4.29 The Project estimates tendered by contractors were not subjected to independent verification.

4.30 Analysis associated with developing whole-of-life in-service support costs of SDSS *version 4* was recommended as a key Project activity by CSIG-ISD. The ANAO found no evidence to suggest that analysis of possible technical architectural solutions for the Project was completed, as part of an exercise to minimise through life costs.

4.31 The ANAO found no evidence to suggest the PMO utilised the software development information, being gathered to assist the Project Office, with the aim of identifying problems in specific areas of delivery. It is also of note that, although the prime software developer was acting under existing contractual arrangements with Defence to deliver modifications to an existing Commercial-Off-The-Shelf (COTS) product, the PMO did not assess software modularity cohesiveness and coupling qualities. Nor did it match these to the number of function points within the Project in an attempt to gauge software complexity levels, and thus estimate on a regular basis the time required to complete coding activities. The Project Office did not actively manage software

metrics to assess software development effectiveness and efficiency.[47]

4.32 The ANAO noted that the basic measures associated with software intensive system EVM were being discussed by the Project Board. The ANAO found no evidence that these measures were being actively monitored and then managed by the Project Office, even though the contract deliverable requirements stipulated that products delivered to the Project were to be reported using an EVM tool.

4.33 The Project Board members were not fully apprised of the real data being collected from the suppliers of software deliverables, nor its potential to result in schedule or budgetary extensions. Instead, members relied on a processed traffic light system in which, few real measures, projections or values were available.

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[47] Roger Pressman's Software Engineering, A Practitioner's Approach (fourth edition) by McGraw-Hill 1997 outlines that the measure of modularity within a software product defines the extent to which it is divided separately into discretely named and addressable components, called modules. The modules are then integrated to satisfy the requirements of the Project, and are large cost drivers when testing and accepting the end product.

Analysis of the following design criteria for proposed software products is used to validate the modularity of a system prior to implementation of any construction work, or the acceptance of a contract:

- Modular Decomposability: the extent to which a design method provides for a systematic mechanism for decomposing a task into sub-tasks, thereby reducing the complexity of the overall task in an attempt to achieve a suitably effective modular solution.
- Modular Composability: the extent to which a design method provides for reuse of existing, proven design components into a new system thus reducing the risk of individual modular failure during the integration and testing phase of a Project.
- Modular Understandability: when the function of a module is understood as a stand-alone unit, without reference to other modules, it will be easier, thus cheaper to build, test and modify.
- Modular Continuity: the measure of modular continuity is a large cost driver when changes to system requirements are being considered. If small changes to a system's requirements are required through test and evaluation outcomes, and these can be implemented within small, well defined modules, then the impact of change induced side-effects on the whole system can be minimised, and the costs associated with system test and analysis reduced.
- Modular Protection: should an aberrant condition occur within a module and its effects are constrained within that module, the impact of error-induced side effects will be minimised.

Modularity drives the functional independence of a software product. Functional independence is achieved by developing modules with single-minded function, and an aversion to excessive interaction with other modules. Software with effective modularity is far easier to develop because function may be effectively compartmentalised, which concomitantly simplifies the associated interfaces. Independent modules are easier to test and maintain because the secondary effects caused by design/code modification activities are limited, error propagation is reduced, and reusable modules are made possible.

Independence is measured using two qualitative criteria:

- Cohesion: Cohesion is a measure of the relative functional strength of a module; and
- Coupling: Coupling is a measure of the relative interdependence among modules.

It is important to strive for high cohesion and recognise low cohesion to ensure software designs can be modified to achieve greater functional independence. Coupling, on the other hand, depends on the interface complexity between modules, the point at which entry or reference is made to that module, and relates to the data that passes across the interface. The lowest possible level of coupling is desirable. Low coupling levels equate to simplified connectivity and improved understandability of software, reducing the impact of the ripple effect that occurs when errors occur at one location and propagate through the system.

4.34 The MISD traffic light reporting system was routinely updated to reflect progress against re-baselined information. To that end, following the RCI, the reporting system was showing that the status of the Project was Green; that is, within approved scope, schedule and budget allocations, without any real changes to the Project management methodology. The estimated cost at completion continued to rise throughout the conduct of the Project.

Contract Management Structure

4.35 The Project's functional structure is represented at Figure 4.4. Fundamental to the control of the Project was the requirement for the Project Office to establish Service Level Agreements (SLAs) with internal Defence suppliers for Defence specific deliverables.

4.36 A Defence report noted that both the Project Board, and the Project Office were not in a position to exercise governance over the major dependencies required from other projects, as well as internal and external organisations and agencies required to assist with key elements of the Project. Defence have identified that there were insufficient numbers of project management staff with which to perform all of the project management tasks required, and the staff available did not have the skill sets necessary to complete Project tasks on time.

4.37 The Project Office did not effectively engage internal suppliers from CSIG-ISD to deliver Defence specific code to the Project in a time frame that supported the Project plan. This stems in part from the lack of, and, therefore, the inadequacy of the OCD in defining the requirements associated with operation of the upgraded SDSS system on the Defence network.

4.38 Internal Defence suppliers did not engage early enough in the planning phase of the Project, to provide a timely estimate of the required resources to support the development of an agreed work schedule, FPS and the associated TCD that would facilitate system operability on the Defence network. The Project did not deliver an FPS or a TCD, as would have been prescribed as an outcome of a PMAP outflowing from a Major Capital Equipment project.[48]

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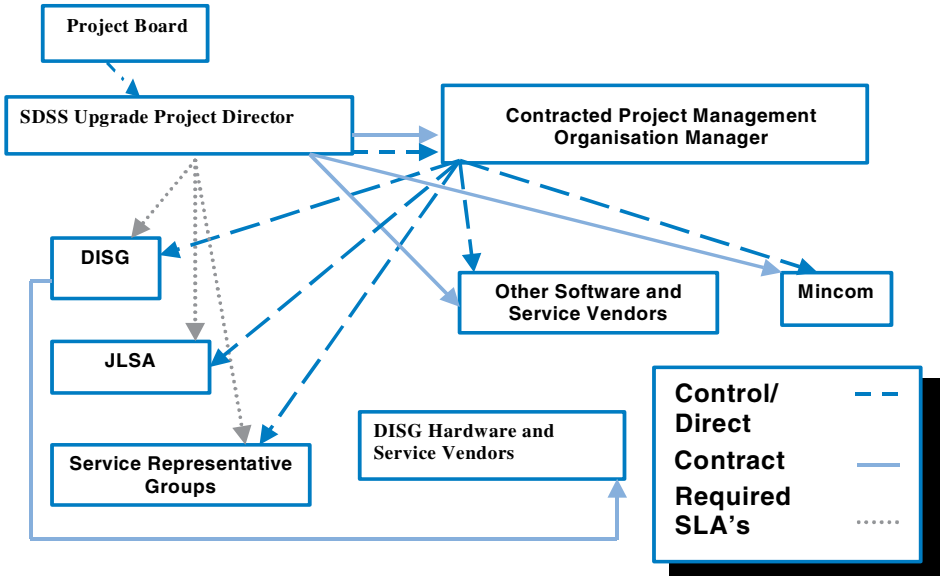
[48] Correspondence between June 2001 and December 2002, supported by the Defence Inspector-General reports to the same effect, reveal a strained relationship between the Project and the Defence CSIG Information Systems Division. The ANAO observed a lack of ISD understanding relating to the requirements of the Project Office in support of the Project. By the time ISD needed to allocate resources to reviewing and approving documentation, and then modification of Defence specific code, there were insufficient staff available to do the work. ISD did not have sufficient time to shift resources to meet the Project Office requirements without operational losses elsewhere in their organisation. At the time this Project was initiated, the Defence CIO had not yet been appointed to take on a role in managing overall Defence architecture for business information system development, and thus ISD had no overarching strategic guidance from the CIO that sought to prioritise effort across Projects.

4.39 Had the Project been run as a Major Capital Equipment procurement activity, the documents required to proactively manage the internal Defence deliverables, would have been produced as a matter of course during the Project approvals process. In an effort to ensure the system would operate on the Defence network, the ANAO noted that CSIG-ISD were consulted during the lead up, and initiation phases of the Project, and were asked to define the required functional performance specifications of the upgraded system. Notwithstanding this discourse, CSIG-ISD were unable to commit resources as required to effect the testing requirements for the upgraded system. They found that they could not commit to the requirements of the Project within the time that the Project Office had allocated to deliver critical path Project deliverables.

4.40 The inability for the contracted PMO to effectively direct Defence identities, and the lack of required SLA's that could not be honoured by Defence suppliers to the Project contributed, to a large degree, to Project delays. Figure 4.4 illustrates the contractual and management control lines for the Project.

Figure 4.4

SDSS Upgrade Project functional makeup



Source: SDSSUP head contract.

4.41 Defence assessed that the Project Board underestimated the complexity and extent of work required, to manage the number of individual contracts required to deliver the upgraded system. The effects of this shortcoming may have been alleviated, had the Project Office engaged a dedicated business manager, who could have been made responsible for the management status of what proved to be in excess of 50 individual contracts, with all their respective amendments.

4.42 Contractors frequently worked for the Project Office for extended periods while deliverables had not been defined. This practice, although representative of goodwill and intent on behalf of the contractors, placed Defence in a position where liability for payment was being executed without recourse. In business terms, Defence was accruing a Project re-planning liability for which it had no legal agreement stipulating the required deliverable.

4.43 Responsibility for contract management was devolved from the Project Office to the PMO, which, in turn, were Defence contractors. The effect this decision had on the Project was to load contracted team leaders with the responsibility to manage contract control, disputes and invoice payment issues with other contractors on behalf of Defence, when it was Defence which had entered into those specific contracts in the first instance.

Project Management Contract Terms

4.44 Phase 1 of the Project constituted the design phase. The PMO was contracted under fixed price terms to deliver the contracted outcomes required of this phase. Upon completion of Phase 1, the Project Office, subject to satisfaction with the delivery of Phase 1, exercised the embedded contract option for the contracted PMO to proceed with Phase 2 delivery, the build of the systems and roll-out of the solution.

4.45 A review of the PMO contract reveals that the payment terms for Phase 2 project management services resulted in both fixed cost deliverables and periodically negotiated payments running on a month to month basis. There were contractual items for which the PMO were responsible for delivering against a fixed cost arrangement. However, other management functions were being undertaken against a predetermined hourly rate[49] for specified staff.[50] This construct served to create an environment where the

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[49] Clause 2.3.2 of the PMO Services contract states that 'Contract prices for Phase 2 Deliverables will be based on the hourly rates contained in Attachment C and the level of personnel and other resources shall be previously agreed between the Commonwealth and the Contractor for each Contract Deliverable'.

[50] Clause 2.3.4 of the PMO Services contract states that 'The Commonwealth warrants that … it will agree in respect of the Phase 2 Contract Deliverables to a level of personnel and resources which is reasonable having regard to the nature of the Contract Deliverable'.

PMO was deriving payments, in addition to those originally contracted, for Project delays.[51]

4.46 Mis-alignment of the payment terms does not represent best practice contract management methodology, and accordingly, delays to the Project would not have necessarily disadvantaged the PMO.[52]

4.47 The PMO contract provided for performance based incentive payments in line with the identified Key Performance Indicators. For Phases 1 and 2, the performance incentive amounted to five per cent of the respective contact value. For Phase 1, $162,642 in incentive payments were made to the PMO from $177 648 initially made available for this phase. No Key Performance Indicators were identified in the PMO Contract for Phase 2. No incentive payments were recorded for Phase 2. Total incentive payments for the Project (Phase 1 and 2) represented less than one per cent of the final PMO prime contract value of $22.13 million.

4.48 PwC advised the ANAO in June 2004 that:

> PwCC undertook a specific (and limited) role as a consultant in preparing a number of reports commissioned by the Department of Defence. The Department then formulated its equipment acquirement strategy and called for expressions of interest in relation to it. PwCC lodged and expression of interest and was one of three companies placed on a short list and invited to tender for the Project. All tenderers were provided with copies of PwCC's reports from the scoping phase and all had the same opportunity to put forward their proposals for the provision of project management services as defined in the Defence strategy.

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[51] There were 21 contract amendments to the PMO contract. Most of these amendments were applied to re-engage the PMO on a month to month basis to cater for Project delays. PwC advised the ANAO in June 2004 that:

> *there is no justification for suggesting that the PMO was responsible for those delays or should have been in any way penalised for those delays (or that it was in any way perversely financially rewarded for those delays). Appropriate and accepted business management practice in this area is such that where a PMO is required to dedicate staff and resources to a large scale project such as this it is entitled to remuneration for work performed on an agreed basis including wok performed by reason of delays for which it was not responsible.*

[52] Whilst the fixed price payment terms for MINCOM provided a necessary incentive for product delivery on time, the payment terms of the PMO contract in Phase 2 suggest that the PMO would not be disadvantaged by late product delivery and Project delays during Phase 2 to the extent of the overhead management element of the contract. Notwithstanding this apparent conflict, Defence initiated changes to the functional scope of the Project during Phase 2, that would have allowed the PMO to claim for excusable delays in discharging their contract irrespective of the style of contract engaged.

Recommendation No.4

4.49 The ANAO recommend that Defence:

(a) develop specific policy to define, and manage effectively, actual and perceived conflicts of interest arising from the engagement of a Contractor to conduct the scoping phase of a project that provides the basis of a much larger tender; and

(b) review the use of a time and materials style contract for the performance of management functions associated with high-risk software development projects dependent on Defence specific deliverables.

Defence Response

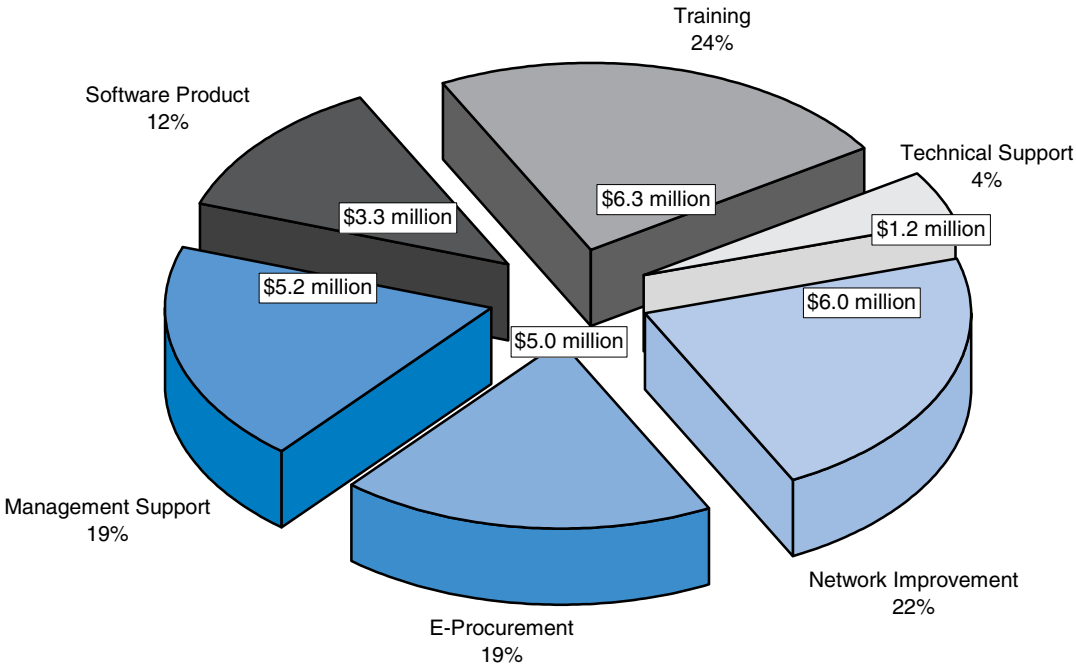
4.50 Defence agrees with the recommendation.

Project Cost Breakdown

4.51 Figure 4.5 represents the Equipment Acquisition Strategy estimated breakdown of costs in June 2000. This budget identified a $5.2 million requirement for project management support, consisting of project management ($2 million), rollout management ($2.1 million) and change management ($1.1 million). Requirements for an e-business capability ($5 million) and network improvements ($6 million) was also identified in the Equipment Acquisition Strategy, but were not funded in the initial Project allocation funding of $15.87 million. Funding for these activities was later achieved as part of Project JP 2077, which in turn was approved by the Government in July 2001.

Figure 4.5

Equipment Acquisition Strategy Proposal Funding Breakdown–July 2000



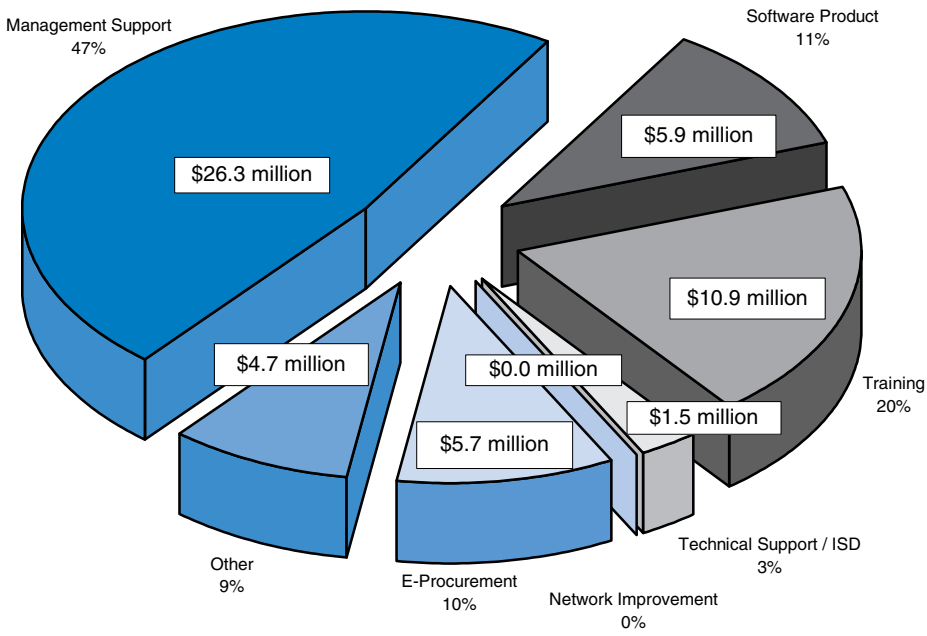
Source: SDSSUP and Defence financial records.

4.52 The cost to Defence of utilising a PMO, in lieu of specifically trained Defence personnel, becomes apparent when the full costs of the Project are apportioned to product delivery, training development and delivery, and program management expenses.

4.53 At nominal Project completion in November 2003, the Project's activities, and those supporting the Project's outcomes had committed to expenditures of $55 million. Figure 4.6 illustrates the breakdown of final committed costs, as aligned by the categories identified in the Equipment Acquisition Strategy. Total recorded expenditure against the Project cost centre was $49.9 million with the balance in funding provided by external, yet associated Projects. These associated projects costs amounted to $5.1 million, comprising the Common e-Business Infrastructure project (CeBi) ($2.4 million toward e-procurement) and Project JP 126 Phase 2A ($2.7 million for SDSS *version 3* training rollout to Army).

Figure 4.6

Combined Project Cost as at November 2003



Note: These totals include the CeBI and Project JP 126 Phase 2A costs.

Source: SDSSUP and Defence financial records.

4.54 Of the total committed expenditures, significant variation from the Equipment Acquisition Strategy estimates in the areas of project management ($26.3 million) and training delivery ($10.8 million) are most prevalent. The former also comprises payments for supplementary project management services by the software contractor ($1.54 million), training contractor ($2.18 million) and e-procurement contractor ($0.27 million).

4.55 Expenditure on the core software product had also increased significantly ($5.9 million) by the nominal Project closure, as a result of functional enhancements, and newly imposed financial reporting requirements.

4.56 Project schedule delay is represented by an increase in costs associated with employing a management team on a time and material style contract during the build phase of the Project. The ANAO noted that whilst the cost of developing the software product utilising MINCOM doubled, the cost of management increased five fold compared with the July 2000 Equipment Acquisition Strategy estimates.

4.57 The bulk of the payments for management support ($26.3 million) went to PwCC, in all, 88 per cent.

4.58 Of the project management expenses, advice pertaining to the capability of the software product amounted to six per cent, paid to MINCOM. Training development management amounted to eight per cent, and management associated with the as yet to be delivered e-procurement module amounted to one per cent.

4.59 Development of the Equipment Acquisition Strategy was largely in keeping with the findings associated with a report commissioned from PwCC defining the requirements associated with upgrading the SDSS to version 4 MIMOE software.

Project Schedule Performance Measurement

4.60 As part of the Project Closure Report, the Project Office re-identified the key milestones. The Project Closure Report was submitted to MISD in November 2003, recommending the closure of the SDSS Upgrade Project. The DMO executive has held the Project open until delivery of the financial reporting deliverables, expected in June 2004. These milestones, along with the forecast and achievement dates are outlined in Table 4.2.

Table 4.2

Key Project Milestones

Milestone	Original Baseline– June 2000	Revised Baseline– November 2003	Actual– May 2004	Slippage (weeks)
Project Commences	1 Oct 2000	17 Nov 2000	17 Nov 2000	7
Phase 1 Completed	31 Dec 2000	31 Mar 2001	31 Mar 2001	13
Phase 2 Commences	1 Jan 2001	1 Apr 2001	1 Apr 2001	13
First Site Goes Live	1 Oct 2001	28 Jul 2003	28 Jul 2003	97
Last Site Goes Live	30 May 2002	27 Oct 2003	27 Oct 2003	83
Expected Project Closure	30 Jun 2002		30 Jun 2004	104

Source: Defence SDSSUP Project Closure Report and subsequent Defence advice.

4.61 The Project was reported as being successful in achieving each and every milestone on the dates that were set as part of the revised baseline process. The ANAO notes that in practice, it is unlikely that the revised baseline could have been achieved with the degree of accuracy that has been observed.

4.62 The practice associated with resetting baselines contrasts with the guidance for management of performance assessment information within an Earned Value environment, as represented by Australian Standard 4817 (2003), the Australian Standard for Project Performance Measurement using Earned Value. The standard articulates in regard to a project's Project Management Baseline (PMB) that, retroactive changes to Baseline Schedule, Cost and Scope shall not be made.

4.63 A Defence report argued that the Project Board was made aware as, and when, the Project Office became aware of Project schedule slippage. The same Defence report suggests that the Project Board was being supplied with too much information, and was required to act as both a Governance Board, and a Technical Board, and that the membership of the Board equipped it for neither role without significant support. The review also suggests that reports from the Project Office were indeed distilled sufficiently enough, to permit the Board to take specific actions in relationship to the major issues and risks that could not be managed at Project level.

4.64 The ANAO noted that the PMO did not utilise, nor were they contracted to employ, any form of EVM methodology, or cost schedule control methods, as required by DMO policy.[53] To that end, the true value of delays associated with fixed cost deliverables, which were reflected in overhead cost growth, were not being proactively managed in real time.

4.65 CEPMAN states that a Project's requirement to report utilising EVM measures will appear in the Project's Equipment Acquisition Strategy. Unfortunately, the Project Equipment Acquisition Strategy did not stipulate the requirement to engage an EVM system. CEPMAN also states that, as a general rule, cost/schedule status reporting is applied to individual or multiple subcontracts with any one company, in respect of one prime contract for DMO acquisition, where the subcontracts are valued at more than $20 million and the duration of the subcontracts exceeds 12 months. The Project meets these requirements through its PMO arrangements, and yet did not incorporate the required control mechanism articulated by CEPMAN.

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[53] CEPMAN states that EVM is a performance measurement and management methodology, based on a set of best Project management principles. EVM integrates cost, schedule, technical and risk aspects of performance. EVM is used in high value or high risk procurements to gain an objective understanding of a supplier's technical and managerial performance throughout the life of the contract.

Recommendation No.5

4.66 The ANAO recommends that, where the use of an Earned Value Management System is stipulated by extant policy, Defence consider adopting Australian Standard 4817-2003, the Australian Standard for Project Management Using Earned Value, to provide robust performance assessment information to senior management.

Defence Response

4.67 Defence agrees with the recommendation.

5. Delivery Management and Ongoing Support

This chapter discusses the management initiatives utilised during, and following delivery. It also highlights the initiatives being put into place by Defence to remediate SDSS operational shortcomings.

Change Management

5.1 The delivery and roll out of any software intensive business system across Defence requires careful planning, as well as careful execution in order to ensure the system is well received, well resourced, and well utilised in the user domain.[54] This degree of success will be underpinned by the change management strategy implemented by the Project Office and Defence.

5.2 The SDSS user community needed to have been an integral part of the SDSS upgrade activity, and should have been well versed in the capabilities they could have expected from the eventual delivery of the product. The management of the development of this level of expectation, coupled with a plan to develop end user understanding and concomitant support of, and for, the proposed system, requires a well planned and executed change management strategy.[55]

5.3 Delivery timing, in hand with training delivery timing, is a critical component of the delivery phase of any change management program, particularly one associated with fielding an IT system. Training should be phased sufficiently well ahead of the roll out of the product to build an expectation that the product being delivered is fit for purpose, and hopefully, better suited for the task than that which already exists. The training should not be delivered too far in advance of rollout, however, such that the material

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[54] A Defence minute to the Minister for Defence in March 2004 outlined that:

> *the current operational status of SDSS indicates that it is below minimal levels of functionality … the SDSS version 4 upgrade, supposedly completed in July 2003, is non-performing and for some reason has actually taken progress backwards.*

[55] A March 2002 Defence Inspector General Report identifies the issue of changing the whole rationale of managing Army stores from a unit stores accounting system to the SDSS approach as a massive systemic change, complicated and compounded by significant training implications, and the huge number of new users accompanying the turnover of staff within user units. In itself, this risk is substantial, however when it is compounded with the added risk that many of the SDSS users had not received basic computer operation training, and had difficulties associated with using the graphical user interface that accompanies the upgraded system, the probability of successful change management without a substantial investment in training is substantially lowered. Dimension Data advised the ANAO in June 2004 that:

> Dimension Data trainers did not report significant issues during SDSS Upgrade training rollout with user inability to navigate in a graphical user interface environment.

delivered is forgotten, or worse, delivered to staff that have moved on between the time they were trained, and system rollout.

5.4 A Defence report stated that the Project Office experienced difficulties with identifying and obtaining expert advice from the targeted user base, in an effort to identify and assist with specifying the organisational and business impact the delivered product would incur. It fell to the Project Board, in February 2002, to consider the request from the Project Office to assist with attracting support to define a change management strategy. The Board noted, however, that the concerns expressed by the user community, relating to their ability to manage the cultural changes within the scheduled rollout program, were valid.

5.5 The Board reiterated the requirement of the Project to produce the required change management plans, and to order a review to study the balance struck between schedule time frames and the capacity of organisations to accept and manage change. The Project Office implemented an organisational analysis impact group to identify the implementation change requirements and to align the organisational expectations of the end users in readiness for system delivery.

Operator Training Management

5.6 Defence management of Business Information System Operator Training and Certification is fragmented, and tailored to individual Service requirements. As an example, the ANAO found that, at the time when the Project delivered the upgrade into service, there was no single Training Authority responsible for managing the scope of the training required to educate SDSS operators. There is a Training Advisory Group (TAG) for SDSS. However, this board does not certify training outcomes for each Service based SDSS training deliverer. The ANAO found that Defence did not offer a standardised approach that could facilitate a controlled training environment to certify SDSS users with any formal certificate of operator competency. The ANAO also noted that post upgrade training was not easily planned, nor easily implemented at the required levels of competency, for all end users.

5.7 At the time of Project delivery, there was an absence of formal management linkage between future training documentation development, and future evolution of system functionality. This configuration management issue has implications for the validity of the training material being delivered, particularly if the system is developed in an environment where training development is not able to be undertaken concurrently. Defence subsequently advised the ANAO that current procedures embody a link between system configuration, documented business processes, quality assurance and the development of training documentation.

Training Contract Cost Escalation

5.8 The original Equipment Acquisition Strategy earmarked the cost of training to be $6.3 million. The training contract was awarded with a not to exceed value of $7 million. The costs associated with discharging the contract escalated to $13.35 million.

5.9 The ANAO assessed the escalation as being attributable, in part, to the PMO underestimating the scope and depth of training development and delivery required to implement the system, and to the requirement to delay implementation to safeguard operational availability of the system. The number of training staff involved is as defined at Table 5.1.

Table 5.1

Training staff required to develop and deliver Project training.

Staff Type	Project Manager	Managers	On-line Designers	Designers	Training Developers	Trainer Team Leads	Trainers
Number of Staff	1	4	1.5	3.5	6	4	51

Source: SDSSUP Training Contract Amendment 15.

5.10 The inability of Defence to supply the training contractor with subject matter experts and trainers for the respective development and rollout phases, resulted in new contract requirements totalling $1.41 million. The consequent reliance on contractor supported delivery of training, meant that the Project Office was exposed to large contractor 'maintenance costs', following a decision to delay system go-live.

5.11 Training rollout was delayed by nearly three months in 2003. The cost to Defence for the initial delay was $2.15 million. Rollout of training following this delay cost Defence a further $1.14 million in delivery expenses. Even considering this cost, and that for the training rollout of MIMS *version 3* to Army ($2.7 million) under Project JP 126 phase 2A, the full cost of training development and delivery exceeded the anticipated costs as represented by the Equipment Acquisition Strategy by 47 per cent.

5.12 Defence advises that the training force utilised within the Project was a combination of both contracted, and Defence resources. The intention was to foster the interchange of skills, develop the Defence Force training team, and to leverage the existing manpower available for SDSS training. The ANAO did

not observe any assessments associated with measuring the effectiveness of the arrangements Defence made to engender an information transferral.[56]

Training Effectiveness

5.13 The foreground and background intellectual property associated with the development of the training ware produced for the Project, remains the property of Defence. This arrangement allows the training ware to be passed to appropriate Defence training delivery and training management organisations for delivery. Had there been a centralised Training Authority responsible for the delivery of Defence SDSS logistics systems operator training, it may have been more cost effective to exercise a 'train the trainer' option, obviating the requirement to engage 51 trainers and four team leaders to deliver the training to the Defence site recipients across Australia. In making this alternate choice, the Project Office could have invested in the existing Defence training staff, and ensured the foundations for future system training were embedded in the facilities that ordinarily deliver this, and similar training.

5.14 A single Training Authority responsible for validating and managing the training ware for Defence wide SDSS operator training, would contribute to effectively managing the configuration of Defence wide SDSS operator training. A centralised Training Authority, working closely with the In Service Support management authority for the new SDSS environment, could act as the authority responsible for defining and developing all future training ware updates and modifications.

5.15 A recent Defence report that reviewed the effectiveness of the training delivered as an output of the Project, confirmed that SDSS training did not provide the entire SDSS user community with the necessary skills to ensure the system is fully effective in delivering the required outcomes expected of it.

5.16 As an example of the disparate nature of the training provided in support of SDSS user requirements, the Defence National Supply and Distribution Centre (DNSDC) at Moorebank in Sydney uses its own in-house trainer to conduct warehousing courses for DNSDC staff. This is because the management of DNSDC has assessed the training delivered by the Directorate of Materiel Systems Training, which is now responsible for delivery of SDSS training, as not suitable for staff within the DNSDC environment.

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[56] Dimension Data advised the ANAO in June 2004 that:

Dimension Data provided post conduct reports on Train The trainer activities to the PMO. Dimension Data advise that this provided an assessment on all the trainers (including Defence trainers) and their capabilities to deliver the various components of the SDSS Upgrade Training. Dimension Data also advised that they provided the PMO with summary information from the course evaluations during rollout that rated trainer performance, and that Defence trainers found to be lacking skills were actively assisted to become more proficient through coaching and in class support.

5.17 The nature of business information management systems is such that continued development and generational growth mandates regular follow-on and refresher training, if users are to remain acquainted with full system operability. The ANAO found no evidence of Defence planning to certify users to a specific software release. Similarly, there appeared to be little evidence to suggest that a central management authority within Defence is tracking the required course curricula or training modules required of specific Defence units or users. There is, therefore, no method within Defence, to identify which system modifications or improvements need to be delivered to specific user groups as refresher or follow-on training, when system modifications affecting operability are made. Further, because users are not issued with a validated SDSS training log, there is no way to ensure system users are trained or, alternatively, certified to operate with the latest software release.

5.18 Defence reports that there was no corporate management of SDSS training covering all sections of the user community. The ANAO found that attempts to address the shortcomings associated with the lack of a corporate focus are being made by the DMO with input from, inter alia, the Defence Corporate Services and Infrastructure Group, the SDSS Training Advisory Group, Defence Materiel Systems Training via the DMO Information Systems Division and the Business Skilling Review Team.

5.19 Defence do not provide for a centralised, coordinated SDSS training management environment charged with, and funded for the management and audit of SDSS training delivery and validation. If this situation is left to ensue, the level of confidence associated with the standard of training delivery and configuration control of future SDSS training will diminish, especially as system changes are implemented with time.

5.20 Defence would benefit from aligning the responsibility for SDSS system management and development in the 'In Service' domain, with the responsibility to fund the development and validation of training products for delivery to the user environment. A centralised Defence Training Authority could undertake the management of the delivery of the required training for SDSS.

5.21 The ANAO considers that the regulation and suitability of the training could be formally reviewed at regular intervals, and discussed as a standing agenda item at a Senior User Group or similar executive forum, where the authority to expend funds for training development activities can be endorsed for implementation.

Recommendation No.6

5.22 The ANAO recommends that Defence:

a) review the responsibility for SDSS system management and development in the 'In Service' domain, against the responsibility to fund the development and validation of training products for delivery to the user environment;

b) review the requirement to establish a centralised Defence Training Authority to accept responsibility for the management and delivery of all required SDSS training;

c) ensure that the chosen Training Authority has adequate and relevant experience in the delivery of information system training ware;

d) review the regulation and suitability of the training at regular intervals; and

e) ensure that training is included as a standing agenda item at a Senior User Group, or similar executive forum, where the authority to expend funds for training development activities can be endorsed for implementation.

Defence Response

5.23 Defence agrees with the recommendation.

End User Acceptance

5.24 The Project was designed to provide Defence with improved capability in logistics management and inventory reporting, as well as achieve a standardised supply chain system. However, in February 2004, Defence identified a number of adverse impacts on specific logistics management activities following the delivery of the Project outcomes. These were, inter alia, reported as follows.

- Logistics Support Agency–Navy (LSA-N) will underachieve on repairable item expense by approximately $25 million this financial year, primarily as a result of problems associated with the Repairable Item Management (RIM) module.
- Operator output with the new system, as measured by the rate of generation of repair orders, dropping to as low as 20 per cent of that achieved prior to the system upgrade.
- The increased work load has resulted in LSA-N incurring 4 500 hours of overtime at a cost of $160 000 since MIMS *version 4* rollout. Other

resources have been diverted and/or contracted in as necessary to manage system shortfalls.

- The SDSS to ROMAN interface that was introduced concurrently with the SDSS *version 4* system is not functioning as planned, with shortfalls in Defence's ability to migrate financial data and to make electronic payments.

5.25 In May 2004, Defence advised that the SDSS/ROMAN interface was running in production. Time restraints associated with the compilation of this audit have precluded the ANAO assessment of the performance of the interface, and its ability to satisfy end user requirements.

5.26 The Defence National Storage and Distribution Centre (DNSDC), located at Moorebank in Sydney, is Defence's largest logistics management and distribution operation. It constitutes Defence's largest end-user of delivered SDSS functionality. System shortfalls, as represented at Table 5.2, were impacting adversely on DNSDC's ability to operate both effectively, and efficiently.

Table 5.2

Key DNSDC Issues and Risks

Issue	Risk
• Equipment tracking mismatches are being generated by corrupt SDSSv4 tracking functionality. Tracked equipment issued from DNSDC to its customers continues to show the tracking reference for the equipment as being held in stock at DNSDC.	• While operators at DNSDC have diverted significant resources to reconciling corrupt positions data, incorrect positions are generally not now identified until the subsequent processing of that item.
• Warehouse Managers at DNSDC cannot yet run effective Bin Quantity Identification Tracking Mismatch reports to identify and process tracking anomalies. The problem existed previously in SDSSv3. Notwithstanding, SDSSv4 has since mandated tracking functionality and the report is required to manage tracking mismatches. The size of the DNSDC inventory is so large that it times out on the mainframe computer.	• Warehouse managers and supervisors are unable to use the standard SDSS report to assist in reconciling tracking anomalies.
• There are several system problems that have arisen from the SDSSv4 implementation that continue to impact the efficiency of warehouse operations viz: tracking mismatch identification, erroneous stock on hand reporting and incorrect shelf life information.	• Deficiencies in specific SDSS v4 produced reports have led to a reduction in confidence that all stock identified for issue will actually be available for issue (in a serviceable category) on the warehouse shelf.

Issue	Risk
• The SDSSv4 automated generation of the 'Recommend Order Stores (ROS)' report for centrally managed items is currently being incorrectly delivered to the DNSDC Regional Fleet Managers and not to the ADF Logistic Managers who are responsible for stocking and reprovisioning such centrally managed items.	• ADF Logistics Managers are not being automatically advised of the replenishment requirements for their inventory. Unless ADF Logistics Managers manually check for low stock positions on SDSS (or ROS reports are mailed from the regional to the national inventory manager) stock-out situations will occur that may ultimately lead to an erosion of the ADF's operational capability.

Source: Defence correspondence of April 2004.

5.27 Table 5.3 identifies the critical success factors identified as required outputs of the Project. The delivered functionality, its ability to satisfy end user requirements, and its ability to satisfy external audit and compliance requirements, define its post delivery success.

Table 5.3

Critical Success Factors

Critical Success Factor	Complete	Incomplete
Inventory Management	✓	
Purchasing, which included e-business capabilities with supplier organisations.		X
On-line requisitioning by user organisations	✓	
Codification and Cataloguing functionality	✓	
Warehousing and distribution		X
Financial management, the business rules and associated coding		X
Maintenance management for the Army functionality	✓	

Source: SDSSUP Initiation Document and SDSSUP Close Out Report.

5.28 The upgraded system was intended to deliver a coherent, standardised methodology with which to map respective district, warehouse and supply customer accounts to the organisation level of the three Services. The system was to achieve this mapping activity against the requirements of accrual accounting standards, in lieu of the existing cash management reporting regime.

5.29 The delivered system is populated with mapping data that is inaccurate, and does not operate as required. This deficiency not only compromises the financial integrity of the system, but impedes the functional performance of the system in meeting the end user requirements. The 'Draft' nature of the individual Service operating instructions, appears to compound the misuse of the system. The ANAO observed that the individual Service based instructions, defining access and use of the Single Supply Chain, were not being adopted by Service staff. Defence staff advise that the root of the problem lies with the failure to formally approve the use of the new Single Supply Chain management directives. Consequently, Defence staff advise that the data quality associated with Service use cannot be guaranteed to be consistently derived.[57]

5.30 The Project was reliant on a number of parallel projects being run within the Joint Logistics Command, as well as the co-operation of internal Defence suppliers to ensure it met the requirements of the end users, Defence senior management, and the managers of the infrastructure on which the system was to operate.

5.31 The success of the Project in terms of creating the cultural change required to adopt the entire suite of business processes associated with introduction of the new system was largely dependant on the delivery of these parallel activities. Of those being undertaken, the projects that were reported as being fundamental to overall program success are outlined at Table 5.4.

[57] DNSDC desk officers asserted that the informal 'draft' status of the current Service based operating instructions lead to divergent practices at different locations within Defence. DNSDC staff advised that they have been told by end users that the new operating instructions will not be formally adopted unless they have been formally approved for use by the Head of the Defence Joint Logisitics Organisation.

Table 5.4

Critical Support Projects for the SDSS Upgrade

Parallel Projects Required for SDSSUP Success	Complete	Incomplete
Development of an SDSS/ROMAN electronic interface.[58]		X
SDSS data cleanup to improve data integrity.[59]		X
SDSS data archiving.	✓	
Rollout of SDSS to Army units.	✓	
Major modification to the CENCAT/CODEX codification applications.		X
Improvements to SDSS security and access management.	✓	
An extension of the Chart of Accounts to lower reporting levels within SDSS.		X
Finalisation of the SDSS Inventory Accounting module implementation activity.		X

Source: Defence Management reports.

5.32 The ANAO noted that the Project Office did not effectively influence the direction and outcomes associated with contributory projects via a series of joint implementation groups. A greater degree of governance exercised by the Project Board over the prioritisation of resources contributing to the Project, may have averted a large element of the demonstrated schedule and cost excursions.

Recommendation No.7

5.33 The ANAO recommends that Defence regularly review user acceptance of, and compliance with, the Defence Supply Chain Manual and associated management directives.

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[58] DEFMIS was the Defence Financial Information Management System that preceded ROMAN. Defence advises that in developing ROMAN, a DEFMIS/ROMAN interface, and then a SDSS/ROMAN interface was built for SDSS *version 3*. Defence report that a similar SDSS/ROMAN interface exists for SDSS *version 4*. The aim remains to automate the SDSS/ROMAN interface for SDSS *version 4*. Defence report that the SDSS/ROMAN Interface Project delivered system capability to conduct an electronic transfer between ROMAN and SDSS during the conduct of the SDSSUP, yet the data transfer functionality was not automated, and continues to be done manually using a human interface. Defence advises that the interface has been delayed until it has 'a better understanding of how SDSS *version 4* works', plus, how the business model will work. The system shortfalls continue to jeopardise the acceptance of the Project within the user community.

[59] This activity awaits the completion of a residual activity to put in place policies and procedures to review data quality on an ongoing basis.

Defence Response

5.34 Defence agrees with the recommendation.

Remediation Plans

5.35 Defence advises that following a series of post delivery site visits, remediation activity is planned to address the significant operational shortfalls demonstrated by the delivered system. The aim is to implement changes to ensure:

- 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.

5.36 Defence has provided advice stating that five projects have been established under the SDSS *version 4* Get Well Program umbrella to ensure the key areas of improvement are covered. These projects address infrastructure performance, business process compliance, data quality, software defects and financial capability gaps. A governance structure has been established to ensure a consistent approach to program deliverables, communications and management of issues, risks and dependencies across the program. Defence advise that there has been the appointment of a Program Manager and a Program Management Steering Group to provide oversight. Additionally, Defence report that the SDSS Get Well Program will be reported monthly to the Defence Committee, as one of the DMO projects of concern.

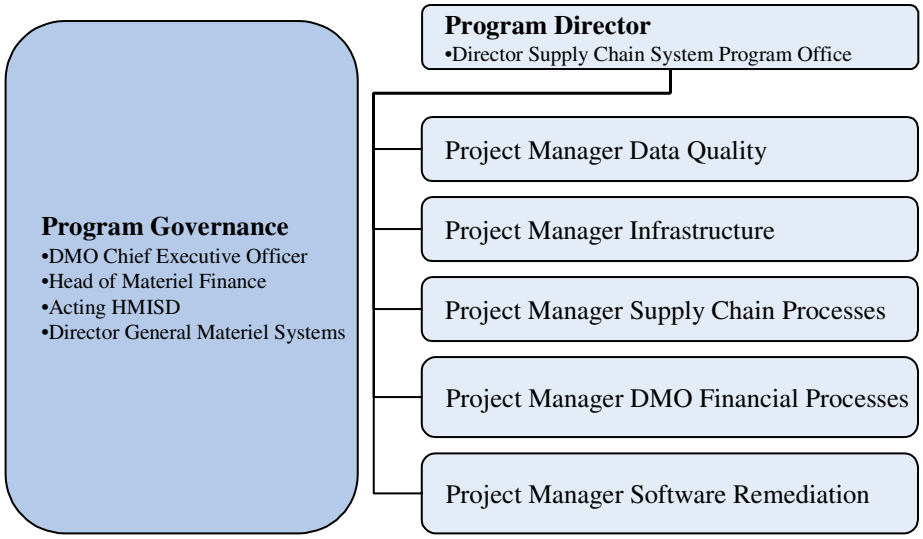
5.37 The SDSS Get Well Program organisational structure, made available to the Defence Audit Committee in April 2004, is as represented at Figure 5.1. Defence report that the 2003–04 activities associated with managing the infrastructure performance, business process, software defects and financial reporting activities are being funded from current operating budget. Defence further advise that work on data quality will be funded to $0.5 million, and a similar amount will be allocated for infrastructure performance improvements. A business case is being developed for consideration to approve additional spending, to the value of $6 million, over the 2004-05 and 2005-06 financial years. An estimated $3.35 million is required for infrastructure performance work during 2004-05, which is forecast to be taken from operating budget funds.

5.38 In May 2004, Defence advised the ANAO that:

> The SDSS Get Well remediation program is putting in place an integrated approach to addressing on-going improvements to SDSS and more broadly to ensure good systems management. It is not a program of 'projects' in the sense of capital acquisition or other types of investment projects so it is not appropriate to consider it part of the MCE (Major Capital Equipment) procurement activity. It is a series of activities designed to improve user confidence in SDSS. The only reason why it has been included as part of DMO's 'projects of concern' report to the Defence committee is because this is the vehicle DMO reports progress on any of its major internal activities - it is not indicative of it forming part of our MCE program. DMO reported DIDS (Defence Integrated Distribution System) as part of the 'projects of concern' for similar reasons during its tendering / contract negotiation stage.

Figure 5.1

Remediation Project Team Structure: April 2004



Source: Defence SDSS Get Well Plan.

5.39 The ANAO notes that there are no members of the Defence CIO's staff on the Program Governance Board. The ANAO further notes that the members of the Governance Board do not encompass a wide representation of end user interests, and is wholly made up of DMO representatives. The risks associated with this approach ostensibly mirror many of those associated with the management and governance of the SDSS Upgrade Project from *version 3* to *version 4*.

Recommendation No.8

5.40 The ANAO recommends that Defence manage the recently developed SDSS Get Well Program within the framework of the Defence Information Environment, including wide end user involvement (with Joint Logistics Command representation) at the Governance Board level.

Defence Response

5.41 Defence agrees with the recommendation.

Canberra ACT
4 August 2004

P. J. Barrett
Auditor-General

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