

The Auditor-General
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Performance Audit

Department of Defence's Management of General Stores Inventory

Department of Defence

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Senior Executive Director
Corporate Management Group
Australian National Audit Office
GPO Box 707
Canberra ACT 2601

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Canberra ACT

7 June 2023

Dear President
Dear Mr Speaker

In accordance with the authority contained in the *Auditor-General Act 1997*, I have undertaken an independent performance audit in the Department of Defence. The report is titled *Department of Defence's Management of General Stores Inventory*. Pursuant to Senate Standing Order 166 relating to the presentation of documents when the Senate is not sitting, I present the report of this audit to the Parliament.

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

Yours sincerely

A handwritten signature in black ink that reads "Grant Hehir".

Grant Hehir
Auditor-General

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

AUDITING FOR AUSTRALIA

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

For further information contact:
Australian National Audit Office
GPO Box 707
Canberra ACT 2601

Phone: (02) 6203 7300
Email: ag1@anao.gov.au

Auditor-General reports and information about the ANAO are available on our website:
<http://www.anao.gov.au>

Audit team

James Woodward
Natalie Whiteley
Kim Murray
Michael Brown
Jude Lynch
Sally Ramsey
Amy Willmott

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Audit snapshot

Auditor-General Report No.33 2022–23

Department of Defence's Management of General Stores Inventory



Why did we do this audit?

- ▶ As at 30 June 2022, Defence was managing general stores inventories (GSI) of more than 70 million items across 547 geographically dispersed locations.
- ▶ Efficient and economical management of GSI contributes to: achieving Defence's purpose; and compliance with the accountable authority's *Public Governance, Performance and Accountability Act 2013* responsibilities.
- ▶ This audit provides independent assurance to Parliament of the efficiency and economy of Defence's management of GSI.



What did we find?

- ▶ Defence cannot demonstrate that it is achieving efficiency and economy in its management of GSI.
- ▶ The GSI management framework partly addresses efficient management and does not address economical management.
- ▶ The framework is not operating as intended to achieve the proper use and management of public resources.
- ▶ Defence cannot demonstrate it has fully implemented its framework requirements for a 'balanced inventory' that avoids both understocking and overstocking.



Key facts

- ▶ GSI includes items such as ration packs, clothing, screws, washers, light globes, toiletries, as well as replacement parts for Specialist Military Equipment (SME).
- ▶ Defence holds 'operating stocks' of GSI to maintain capability, and 'reserve stocks' over and above operating levels.
- ▶ Defence policy provides for a 'balanced inventory' that avoids both understocking and overstocking.



What did we recommend?

- ▶ The Auditor-General made four recommendations to improve Defence's: guidance for holding GSI overstocks; assessment of risk relating to known non-compliance with the inventory management framework; estimates of inventory management costs; and senior management response to known issues of inefficiency and overstocking of GSI.
- ▶ Defence *agreed* to the recommendations.

\$2.6bn

Value of GSI reported in Defence's financial statements at 30 June 2022.

\$1.7bn

Value of GSI that could not be identified against a need or activity at 30 June 2022.

65–79%

Percentage of GSI identified by Defence systems as overstock between 2015–16 and 2021–22.

Summary and recommendations

Background

1. Defence defines inventory management as the ‘phase of military logistics which includes managing, cataloguing, requirements determinations, procurement, distribution, overhaul and disposal’ of inventory.

2. As at 30 June 2022, Defence reported a balance of \$7.9 billion in inventories comprised of explosive ordnance (\$5.3 billion), general stores inventories (\$2.6 billion) and fuel (\$61.6 million).¹ Defence holds both ‘operating stocks’ to maintain capability, and ‘reserve stocks’ over and above operating levels.²

3. This audit is focused on Defence’s management of general stores inventory (GSI).³ Defence’s Electronic Supply Chain Manual defines GSI as items:

consumed in the course of Defence operations and used in the delivery and support of deployable military capability. GSI includes expendable and consumable items (Stock Type X) such as ration packs, clothing, sleeping bags, webbing, wet weather equipment, screws, washers, light globes, toiletries, as well as accountable inventory (Stock Type A) which incorporate those high value platform-specific and general replacement parts for Specialist Military Equipment (SME) assets which are not repairable.

4. Defence’s GSI holdings comprise more than 70 million items of various stocks that are managed across 547 geographically dispersed locations. Defence records indicate that as at 17 November 2022, the majority of GSI (99.87 per cent) was being managed by Defence’s Capability Acquisition and Sustainment Group (CASG).

5. Defence’s Accountable Authority Instruction 8: Managing Defence Property (AAI 8) sets out a requirement to ensure that ‘Defence property is used in an efficient, effective, economical and ethical manner.’⁴ Defence property includes but is not limited to equipment, furniture, office supplies, clothing, uniforms, IT and telecommunications assets and military equipment. AAI 8

1 As reported in Defence’s audited financial statements for 2021–22, which are included in Defence’s 2021–22 Annual Report at Appendix A, available from <https://www.defence.gov.au/about/information-disclosures/annual-reports> [accessed 9 January 2023]. See: Note 3.2B: Inventories (at pp. 215–16); and Key Audit Matter – Existence and completeness of inventories (at p. 177).

2 The two stock types are defined in paragraph 1.1 of this audit report.

3 The ANAO examined aspects of Defence’s management of its fuel in Auditor-General Report No.28 2017–18 *Defence’s procurement of fuels, petroleum, oils, lubricants, and card services*.

The ANAO examined Defence’s management of explosive ordnance in:

- Auditor-General Report No.40 2010–11 *Management of the Explosive Ordnance Services Contract*;
- Auditor-General Report No.37 2010–11 *Management of explosive ordnance held by the Air Force, Army and Navy*; and
- Auditor-General Report No.24 2009–10 *Procurement of Explosive Ordnance for the Australian Defence Force*.

4 The AAIs are made by the Secretary of the Department of Defence (the accountable authority) under the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). They apply to all persons engaged under the *Public Service Act 1999* (PS Act) in Defence; all members of the Australian Defence Force (ADF); persons on exchange with, or on loan to Defence, who perform financial tasks; officials from other entities that use or manage public resources for which the Secretary is responsible; contractors, consultants and outsourced service providers (CCOSPs) undertaking work duties at the direction of Defence; and any other person who is defined as an official in accordance with section 13 of the PGPA Act and section 9 of the PGPA Rule.

instructs ‘everyone’ of their responsibility to ‘record, store, distribute, cost, disclose, dispose, track, transfer and stocktake property in accordance with policies endorsed by the Chief of the Defence Force (CDF) or the CFO [Chief Finance Officer]’. AAI 8 also instructs Defence Group Heads and military Service Chiefs that they ‘are responsible and accountable for all Defence property in your Group’s custody’.

6. By issuing AAI 8, the Secretary of Defence acts in accordance with the duty in section 15 of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) to govern the entity in a way that promotes the proper use and management of public resources.⁵

Rationale for undertaking the audit

7. As at 30 June 2022, Defence was managing general stores inventories (GSI) comprising more than 70 million items of various stocks valued at \$2.6 billion across 547 geographically dispersed locations. The efficient and economical management of the level of inventories (both operating stocks and reserve stocks) contributes to: the achievement of Defence’s purpose; and compliance with the accountable authority’s responsibilities for the proper use and management of public resources for which the accountable authority is responsible.

8. This audit provides independent assurance to the Parliament of the efficiency and economy of Defence’s management of GSI.

9. The JCPAA identified the potential audit topic as a priority of the Parliament for 2020–21.

Audit objective and criteria

10. The audit objective was to examine the efficiency and economy of Defence’s management of its general stores inventory. To form a conclusion against the objective, the following high level audit criteria were adopted.

- Has Defence established an authorising and administrative framework for the efficient and economical management of general stores inventory?
- Can Defence demonstrate implementation of its framework for the efficient and economical management of general stores inventory?

Conclusion

11. Defence cannot demonstrate that it is achieving efficiency and economy in its management of general stores inventory.

12. Defence has established an authorising and administrative framework for the management of its general stores inventory which partly addresses efficient management and does not address economical management. Defence has been partly effective in maintaining its framework and has allowed it to degrade over time, pending implementation of new systems and

5 ‘Proper’ is defined in section 8 of the PGPA Act, in relation to the use or management of public resources, as ‘efficient, effective, economical and ethical’ use. The term ‘use’ refers to the spending of relevant money, the commitment of appropriations, and the application of public resources generally to achieve a public purpose. The term ‘management’ is broad and encompasses the decisions, systems and controls around the custody and use of, and accountability for, public resources.

supporting policies. The framework is not operating as intended to achieve the proper use and management of public resources.

13. Defence is not able to demonstrate that it has fully implemented its framework requirements regarding cost-effective and efficient inventory management, and a 'balanced inventory' that avoids both understocking and overstocking. Defence was also unable to demonstrate, until late in this audit, an active focus or response by Defence senior leaders on known issues contributing to inefficiency and overstocking in the management of general stores inventory.

Supporting findings

The framework for managing inventory

Authorising and planning framework

14. Defence has established but not fully documented a framework for the management of its inventory. The framework establishes both authorising and planning arrangements for the management of general stores inventory (GSI). The framework sets out roles and responsibilities within Defence and includes relevant policies and procedures to be followed. However, the authorising and planning frameworks for inventory stock holdings are not fully documented. (See paragraphs 2.3 to 2.65)

15. While the framework includes statements about the importance of cost-effective and efficient resource use, it does not directly address economical management of Defence inventory. (See paragraph 2.7)

16. Defence has allowed the framework to degrade over time, and non-compliant practices to arise, while awaiting the implementation of new systems and supporting policies. Defence could not provide the ANAO with evidence that the senior responsible officers — for entity-wide logistics policies and procedures and for Capability Acquisition and Sustainment Group (CASG) policies and procedures — have assessed the risks associated with the current approach or approved it. (See paragraphs 2.66 to 2.83)

17. The framework is not operating as intended to achieve the proper use and management of public resources and elements of the framework established in 2020 to provide visibility of, and authority for, justifiable overstocking have not been implemented. (See paragraphs 2.66 to 2.72)

Systems

18. Defence has established systems to support implementation of its authorising and planning framework for GSI. These include the Military Integrated Logistics Information System (MILIS). (See paragraphs 2.84 to 2.89)

19. A weakness of Defence's systems is that they do not provide visibility of the holding and administrative costs associated with its GSI. Defence's inventory management system includes 'notional' holding and administrative costs established in 1999, and the government's *2008 Audit of the Defence Budget* (the Pappas Review) found that Defence had materially underestimated those costs. In effect, not all relevant inventory management costs are well understood by Defence. This affects the ability of accountable logistics managers to make efficient and economical inventory

procurement decisions and Defence is not well placed to demonstrate the efficiency and economy of its inventory management arrangements. (See paragraphs 2.90 to 2.101)

Operational guidance and training arrangements

20. Defence has established operational guidance and training arrangements to support the implementation of the authorising and administrative framework. Defence's guidance and training is largely focussed on the use of MILIS by its Designated Logistics Managers (DLMs), rather than the broader range of skills and experience required by the Defence Logistics Policy Manual, and does not focus explicitly on the efficient and economical management of GSI. (See paragraphs 2.102 to 2.115)

21. Defence has stated that its training arrangements are intended to support the professionalisation of logistics personnel. While training to access MILIS is mandated for DLMs and managed centrally, other relevant training is not. The completion of other training requirements is managed at a local level and Defence is not well placed to provide internal assurance that DLMs have the skills and experience required by the Defence Logistics Policy Manual. (See paragraphs 2.111 to 2.119)

Framework implementation

Governance, monitoring, reporting and evaluation arrangements

22. Defence has established governance, monitoring, reporting and evaluation arrangements for its GSI. These arrangements generate relevant management information for Defence's operational managers and senior leaders with oversight responsibilities, including in respect to overstocks of GSI. (See paragraphs 3.3 to 3.25)

23. The information available from these arrangements indicates that Defence is only partly effective in its implementation of the documented framework for cost-effective and efficient inventory management, which includes the goal of a 'balanced inventory' that avoids both understocking and overstocking. Since their introduction in 2015–16, annual Capability Acquisition and Sustainment Group (CASG) inventory health checks have repeatedly drawn attention to an inadequate focus on efficiency and resultant overstocking of Defence warehouses. They have further highlighted that overstocking is indicative of unnecessary overspending. (See paragraphs 3.26 to 3.53)

Demonstrating implementation of the framework

24. Data from Defence systems indicates that on every measure examined by the ANAO, Defence's GSI is not 'balanced'. As of 7 February 2023, 79 per cent of general stores inventory warehouse stock on hand represented system-calculated overstock. Historically, this figure has been between 65 and 79 per cent. (See paragraphs 3.54 to 3.75)

25. The high levels of system-calculated GSI overstocks indicate that CASG's System Program Offices (SPOs) — which are responsible for day-to-day inventory management — continue to not calculate and/or model, or enter in Defence inventory management systems, operational and reserve stock quantities. (See paragraph 3.76)

26. Defence's performance against the examined measures, and non-compliance with the documented inventory framework, indicate that Defence is not able to demonstrate that it has

fully implemented framework requirements regarding cost-effective and efficient inventory management, and a ‘balanced inventory’. (See paragraph 3.76)

27. CASG’s annual inventory health check findings on the reasons for overstocking and inefficiency in the management of GSI have been reported to operational management and senior leaders since the health checks were introduced in 2015–16. However, there was no indication until late in this audit of an active focus by Defence senior leaders on these known issues, nor an active management response (see paragraphs 3.77 to 3.82).

Recommendations

Recommendation no. 1
Paragraph 2.64 The Department of Defence clarify the status, and review the implementation, of the Capability Acquisition and Sustainment Group’s Materiel Planning and Management Policy and associated procedures, to ensure that there is a documented rationale for holding general stores inventory identified as overstock.

Department of Defence response: *Agreed.*

Recommendation no. 2
Paragraph 2.82 The Department of Defence assess:

- (a) the risks associated with the current approach of allowing the existing framework of logistics policies and procedures to degrade over time while awaiting the implementation of the logistics management component of the Enterprise Resource Planning system; and
- (b) whether the current approach and related non-compliance can be authorised or needs to be re-aligned with documented requirements.

Department of Defence response: *Agreed.*

Recommendation no. 3
Paragraph 2.100 The Department of Defence review holding and carrying cost values established in its systems supporting inventory management, to ensure that they reflect a contemporary evidence-based estimate of these inventory management costs.

Department of Defence response: *Agreed.*

Recommendation no. 4 The Department of Defence develop a senior management response to the known issues contributing to inefficiency and overstocking in the management of general stores inventory, including a review of:

Paragraph 3.81

- (a) inventory management training and compliance arrangements across all Domains and System Program Offices, to ensure that operational and reserve stock requirements are calculated and/or modelled and that these values are recorded in Defence's inventory management systems; and
- (b) procurement against stock codes which are inactive, including those with no usage history, to determine whether these represent unauthorised overstocking.

Department of Defence response: *Agreed.*

Summary of entity response

28. Defence's summary response is provided below. Defence's full response is included at Appendix 1.

Defence acknowledges the ANAO's assessment that Defence cannot fully demonstrate it has implemented a framework that achieves 'balanced inventory' (i.e. that avoids both understocking and overstocking).

Defence is committed to strengthening processes and controls for the management of general stores inventory and will consider key strategic inputs to Defence preparedness and planning guidance to inform remediation priorities for consistency and assurance. The Defence Enterprise Resource Planning system currently being implemented will deliver enhanced capability to track labour, storage and distribution costs to a greater level of granularity.

Key messages from this audit for all Australian Government entities

29. Below is a summary of key messages, including instances of good practice, which have been identified in this audit and may be relevant for the operations of other Australian Government entities.

Governance and risk management

- When transitioning from an existing business management system to a replacement system, senior management should carefully assess and actively manage risks relating to the possible degradation of the existing system and non-compliance with requirements relating to its operation.

Audit findings

1. Background

Introduction

1.1 Defence defines inventory management as the ‘phase of military logistics which includes managing, cataloguing, requirements determinations, procurement, distribution, overhaul and disposal’ of inventory. The Defence Logistics Policy Manual states that Defence holds two broad categories of inventory.⁶

- Operating stocks — defined as ‘those stocks required to support the [military] Service Chiefs in meeting established raise, train and sustain targets, including exercises and current operations’. Defence holds operating stocks to maintain Defence capability.
- Reserve stocks — held where ‘operating stocks are insufficient to initiate or sustain approved contingency activity’. Reserve stocks are those stocks over and above operating levels that Defence holds to safeguard its inventory holdings against possible future events such as emergencies, short-notice operations, delays in production and transit, or other unforeseen fluctuations in supply or demand.

1.2 As at 30 June 2022, Defence reported a balance of \$7.9 billion in inventories comprised of explosive ordnance (\$5.3 billion), general stores inventories (\$2.6 billion) and fuel (\$61.6 million).⁷ This audit is focused on Defence’s management of general stores inventory (GSI).⁸ Defence’s Electronic Supply Chain Manual defines GSI as items:

consumed in the course of Defence operations and used in the delivery and support of deployable military capability. GSI includes expendable and consumable items (Stock Type X) such as ration packs, clothing, sleeping bags, webbing, wet weather equipment, screws, washers, light globes, toiletries, as well as accountable inventory (Stock Type A) which incorporate those high value platform-specific and general replacement parts for Specialist Military Equipment (SME) assets which are not repairable.

1.3 Within Defence systems, GSI is identified by two Stock Type codes — ‘A’ for accountable inventory, and ‘X’ for expendable inventory. Table 1.1 below sets out the definitions of the two

6 The Defence Logistics Policy Manual is Part 2 of the Defence Logistics Manual (DEFLOGMAN) series. The DEFLOGMAN series, authorised by the Chief of Joint Capabilities as the accountable officer for joint logistics in Defence, contains five parts and is intended to provide a ‘one stop shop’ of joint logistics documents in Defence.

7 As reported in Defence’s audited financial statements for 2021–22, which are included in Defence’s 2021–22 Annual Report at Appendix A, available from <https://www.defence.gov.au/about/information-disclosures/annual-reports> [accessed 9 January 2023].

See: Note 3.2B: Inventories (at pp. 215–16); and Key Audit Matter – Existence and completeness of inventories (at p. 177).

8 The ANAO examined aspects of Defence’s management of its fuel in Auditor-General Report No.28 2017–18 *Defence’s procurement of fuels, petroleum, oils, lubricants, and card services*.

The ANAO examined Defence’s management of explosive ordnance in:

- Auditor-General Report No.40 2010–11 *Management of the Explosive Ordnance Services Contract*;
- Auditor-General Report No.37 2010–11 *Management of explosive ordnance held by the Air Force, Army and Navy*; and
- Auditor-General Report No.24 2009–10 *Procurement of Explosive Ordnance for the Australian Defence Force*.

Stock Type codes. It also sets out the amount of warehouse stock on hand, as recorded against these codes.

Table 1.1: How general stores inventory (GSI) items are identified by Defence

Stock Type code	Description	Count of stock codes ^a	Warehouse stock on hand ^a	Definition
A	Accountable Inventory	77,887	3,972,820	Items which by reason of special requirements such as health, safety, security or operational criticality require a higher measure of control; or by reason of their value and attractiveness are deemed to present a high risk of misappropriation for the purpose of private use; or the loss or mismanagement would be likely to create significant media or public interest or be considered a breach of State or Commonwealth law.
X	Expendable Inventory	553,936	68,210,328	Items of inventory that are consumed but not accountable (for example, uniforms).
Total	–	631,823	72,183,148	–

Note a: Stock codes are types of items. This column sets out the numbers of types of items as at 7 February 2023.

Source: Defence documentation.

1.4 Defence's GSI holdings comprise more than 70 million items of various stocks that are managed across 547 geographically dispersed locations. As shown in Table 1.2 below, since 30 June 2020, the number of locations, stock codes and total stock on hand has decreased and the reported financial value of GSI holdings has increased.

Table 1.2: Characteristics of Defence's GSI holdings — as at 30 June 2020, 2021 and 2022

Date	Number of locations	Number of stock codes	Total stock on hand	Reported financial statement value (\$'000)
30 June 2020	597	322,191	75,321,058	2,335,148
30 June 2021	564	306,219	73,355,051	2,469,837
30 June 2022	547	307,480	70,849,141	2,566,153

Source: Defence documentation.

1.5 Defence records indicate that as at 17 November 2022, the majority of GSI (99.87 per cent) was being managed by the Capability Acquisition and Sustainment Group (CASG). The breakdown of which parts of Defence were managing GSI as at 17 November 2022 is shown in Table 1.3 below.

Table 1.3: Management of GSI within Defence — as at 17 November 2022

Group	Number of stock codes	Total stock on hand	Percentage of total stock on hand (%)	Reason for managing stock
CASG	319,061	73,799,622	99.87	Core business
Army	496	42,178	0.06	Specialist items for Special Forces
Joint Capabilities Group	424	53,219	0.07	Fuel, oils and lubricants for which the group is the stock item owner and some specialist items for explosive ordnance services
Air Force	2	17	0.00	Old training parts for obsolete aircraft engines
Not Assigned	4	100	0.00	Codification error under remediation
Total	319,987	73,895,136	100	–

Source: Defence documentation.

Management of Defence property

1.6 Defence’s Accountable Authority Instruction 8: Managing Defence Property (AAI 8) sets out a requirement to ensure that ‘Defence property is used in an efficient, effective, economical and ethical manner.’⁹ Defence property is defined in AAI 8 as ‘anything other than money, owned or held by Defence.’ Defence property includes but is not limited to equipment, furniture, office supplies, clothing, uniforms, IT and telecommunications assets and military equipment. AAI 8 instructs ‘everyone’ of their responsibility to ‘record, store, distribute, cost, disclose, dispose, track, transfer and stocktake property in accordance with policies endorsed by the Chief of the Defence Force (CDF) or the CFO [Chief Finance Officer]’. AAI 8 also instructs Defence Group Heads and military Service Chiefs that they ‘are responsible and accountable for all Defence property in your Group’s custody’.

1.7 By issuing AAI 8, the Secretary of Defence acts in accordance with the duty in section 15 (see Box 1) of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act).

9 The AAI 8s are made by the Secretary of the Department of Defence (the accountable authority) under the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). They apply to all persons engaged under the *Public Service Act 1999* (PS Act) in Defence; all members of the Australian Defence Force (ADF); persons on exchange with, or on loan to Defence, who perform financial tasks; officials from other entities that use or manage public resources for which the Secretary is responsible; contractors, consultants and outsourced service providers (CCOSPs) undertaking work duties at the direction of Defence; and any other person who is defined as an official in accordance with section 13 of the PGPA Act and section 9 of the PGPA Rule.

Box 1: Duties of accountable authorities

Section 15 of the PGPA Act sets out the duties of an accountable authority in governing a Commonwealth entity.

- (1) The accountable authority of a Commonwealth entity must govern the entity in a way that:
- (a) promotes the proper^a use and management of public resources for which the authority is responsible; and
 - (b) promotes the achievement of the purposes of the entity; and
 - (c) promotes the financial sustainability of the entity.

Note: Section 21 (which is about the application of government policy) affects how this duty applies to accountable authorities of non-corporate Commonwealth entities.

- (2) In making decisions for the purposes of subsection (1), the accountable authority must take into account the effect of those decisions on public resources generally.

Note a: 'Proper' is defined in section 8 of the PGPA Act, in relation to the use or management of public resources, as 'efficient, effective, economical and ethical' use. The term 'use' refers to the spending of relevant money, the commitment of appropriations, and the application of public resources generally to achieve a public purpose. The term 'management' is broad and encompasses the decisions, systems and controls around the custody and use of, and accountability for, public resources.

Source: PGPA Act and the associated explanatory memorandum.

Administrative arrangements

1.8 Defence's Administrative Policy Instruction, dated July 2022, identifies the Chief of Joint Capabilities (military three-star officer) as the accountable officer for joint logistics in Defence, including the enterprise-wide policies and procedures that apply to the management of Defence inventory.¹⁰ These policies and procedures include the Defence Logistics Manual (DEFLOGMAN) series.¹¹

1.9 Internal agreements between Joint Capabilities Group (JCG) and CASG establish the warehousing, distribution and stocktaking services provided by JCG for inventory managed by CASG.¹² The agreements set out what is supplied at no cost to CASG and what is supplied on a 'user pays' basis. The current agreements were signed in January 2013 and have not been updated since then.

10 The Instruction, authorised by the Defence Secretary and Chief of the Defence Force (CDF), establishes the administrative policy framework that supports the Secretary and CDF to jointly manage Defence. The Secretary and CDF jointly manage Defence as a diarchy. The term 'diarchy' reflects the individual and joint accountabilities of the Secretary and CDF in ensuring that Defence meets Australian Government requirements. The manner in which the diarchy operates is described in directions given to the Secretary and CDF by the Minister for Defence.

11 The DEFLOGMAN series, authorised by the Chief of Joint Capabilities as the accountable officer for joint logistics in Defence, contains five parts and is intended to provide a 'one stop shop' of joint logistics documents in Defence. It is a framework document under Defence's Administrative Policy Framework. Defence's Administrative Policy states that the 'Secretary and the CDF expect Defence personnel to comply with, and consistently apply, administrative policies contained in framework documents.'

12 Defence informed the ANAO in November 2022 that Joint Capabilities Group holds approximately 45 per cent of the total holdings (including but not limited to GSI) by stock on hand in the Military Integrated Logistics Information System (MILIS, see paragraph 1.22 below), with the balance held by ADF units and CASG contractors.

1.10 Defence's Administrative Policy Instruction identifies the Deputy Secretary CASG (a civilian Senior Executive Service Band 3 official) as the accountable officer for the provision of 'integrated product support' to Defence's Capability Managers.¹³ Capability Managers are responsible for developing logistical support plans and sustainment agreements with CASG, and setting the level of investment in preparedness, including reserve stock. Support for capability managers is administered through internal agreements between the Capability Managers and CASG (discussed further in paragraph 2.18). Box 2 below describes the key CASG management positions that are responsible for the management of GSI.

Box 2: Capability Acquisition and Sustainment Group (CASG) roles and responsibilities for the management of general stores inventory (GSI)

Division Heads

CASG Division Heads^a are responsible for:

- establishing appropriate mechanisms to ensure that materiel activities in their divisions conform to CASG policy on materiel planning and management, and the policies and procedures referenced in that document;
- ensuring that appropriate and consistent logistics management frameworks are established across the group;
- monitoring and managing the performance of items of supply by the relevant System Program Offices within CASG;
- achieving Key Performance Indicator targets set out in agreements with Defence Capability Managers; and
- promulgating appropriate instructions to ensure consistent and standardised approaches to In-Service logistics management across CASG.

Chair of the CASG Materiel Logistics Management Group

The Chair of the CASG Materiel Logistics Management Group^b is responsible for developing and promulgating process and procedural level guidance to support Domain Heads (Division Heads) to achieve compliance with CASG's Materiel Planning and Management policy.

System Program Offices (SPOs)

SPOs are responsible for forecasting, determining order quantities, and the procurement of Defence's GSI.^c In October 2022, Defence advised the ANAO that there are 64 SPOs, all of which manage GSI items.

SPO Directors are accountable for the collection of Designated Logistics Manager responsibilities associated with the items their SPO manages.

13 Capability Managers are senior Defence personnel (typically military three-star or civilian Senior Executive Service Band 3 officers) accountable for the management of subordinate Capability Programs and oversight of any assigned Multi-Domain Programs, including the development, delivery, introduction, preparedness and withdrawal of capabilities, in accordance with Defence policy and directions.

Designated Logistics Managers (DLM)

The Designated Logistics Manager is the single point of accountability for the through-life management of the allocated item/s. DLMs are designated by, and accountable to, the Product Manager or SPO Director within CASG.

DLM roles and responsibilities are summarised in paragraphs 2.9 to 2.13.

Note a: Defence policy refers to Domain Heads, which is not a contemporary position. The current equivalent is Division Head. These are military two-star officers or civilian Senior Executive Service (SES) Band 2 positions.

Note b: The Chair of the Materiel Logistics Management Group is an Executive Director (Executive Level 2.1) within CASG. The Materiel Logistics Management Group is discussed in Table 3.1.

Note c: Defence advice to the ANAO, November 2022. Also see Table 1.3.

Source: Defence documentation.

Reviews of Defence's management of inventory

1.11 Auditor-General Report No. 5 1997–98 *Performance Management of Defence Inventory*¹⁴ observed that the 1996–97 Defence Efficiency Review (DER, known as the McIntosh review) had highlighted that there were significant opportunities to improve the management of Defence inventory. The DER logistic review team had concluded that levels of operating stock were far too high, reflecting a 'just in case' culture. The ANAO considered that an important element in the implementation of Defence's strategic logistics planning would be an effective performance management strategy and framework that would enable both its effectiveness and efficiency to be measured and managed. The absence of such a framework was considered to have contributed to many of the inefficiencies in inventory management identified by the DER. The ANAO also discussed the importance of Defence understanding and having regard to the costs associated with managing its inventory, that is the economy of its inventory management.

Making cost-effective use of Defence supply-related resources requires a full understanding of the requirement for items based upon capability, preparedness and safety considerations. These factors should then, particularly in peace time, be traded-off against the costs involved in various procurement, storage and distribution strategies.

However, there has been little focus within Defence on developing a management approach for inventory from this perspective. There are few incentives within the current resource and performance management frameworks for managers to consider wider supply chain costs. For example, inventory managers have little knowledge of the additional costs associated with procurement, such as freight and storage costs.¹⁵

1.12 Subsequent government commissioned reviews¹⁶ of Defence's management of inventory also identified issues and areas for improvement in the management of GSI, including:

- unnecessary costs associated with storage, distribution and management of excess inventory;
- that storage and transaction costs were not adequately considered in inventory purchasing decisions; and

14 Auditor-General Report No. 5 1997–98 *Performance Management of Defence Inventory*.

15 *ibid.*, paragraphs 4.7–4.8.

16 For example, the *2008 Audit of the Defence Budget* [Internet] available from <https://defence.gov.au/publications/DefenceBudgetAudit.pdf> [accessed 23 May 2022]. This became the foundation of the 2009 Strategic Reform Program.

- opportunities for Defence to make one-off and ongoing savings by reducing its excess stocks of GSI.

1.13 The Logistics Companion Review to the *2009 Defence White Paper* discussed the relationship between unnecessary costs associated with excess inventory and inadequate consideration of storage and transaction costs in inventory purchasing decisions.

There are numerous examples of poor decision making by users of the logistic system, or clear abuse of the service offered, because the offenders do not incur any financial penalty as a consequence of their choices. For example ... Logistic Managers have no visibility of the additional warehousing costs incurred as a result of their decision to purchase large quantities of stock. Indeed they would be oblivious to the fact that the 'total cost' of their acquisition may be considerably more, despite them having negotiated a bargain unit purchase price. Defence has no cost attribution model, or agreed means of transferring logistics costs to the user. As improved cost visibility and transparency is likely to influence improved behaviours among users, such an approach is seen as a key generator of efficiencies and is a high priority target in the package of inventory reform being considered by Defence. It may be that a cost attribution model will achieve the intent by making it transparent to Capability Managers what the cost drivers [are] under their responsibility.

1.14 Defence has undertaken a number of initiatives to address identified issues in its logistics management. Key initiatives are discussed in Appendix 3 of this audit report. Most recently, in January 2021, Defence undertook a health check of 'Supply Chain Assurance' and found that:

A range of controls and assurance activities are in place across the receipting, returning and disposal phases, however limited to no second and third line assurance activities exist in relation to the earlier planning, sourcing, and manufacturing phases. Defence is currently unable to provide confidence or certainty that supply chain governance and risk management processes are effective in mitigating risks in these early phases.

...

Defence currently has work underway which will introduce controls aimed at better managing and mitigating supply chain risks, but would benefit from a holistic supply chain assurance and control effectiveness audit once these controls have been implemented.

1.15 The health check noted that the planned controls were due to be implemented during 2022, as part of the Supply Chain Risk Management Project and the Supply Network Analysis Program.¹⁷

- In respect to the Supply Chain Risk Management Project, Defence advised the ANAO in September 2022 that it was on track to finalise development of 'risk lenses' in the 2022 calendar year and transition to business-as-usual support for ongoing support and maintenance at the end of the 2022–23 financial year. Defence further advised in May 2023 that the Supply Chain Risk Management solution had not yet been operationalised and was being prioritised as part of Inventory Analytics Reporting activities (see paragraph 3.15 of this audit report).

17 The Supply Chain Risk Management Project is managed by CASG and is 'intended to mine existing Military Integrated Logistics Information System (MILIS) data to highlight lead indicators and flag potential instances prior to realisation of supply chain risks (e.g. stock outs)'.

The Supply Network Analysis Program is 'intended to enhance resilience in the supply chain and mitigate external risk by enabling rapid modelling of complex supplier network relationships'.

- In respect to the Supply Network Analysis Program, Defence advised the ANAO in September 2022 that it was available to all Defence Groups and Services on a user pays basis and was reported on regularly to executive committees.

1.16 The ANAO noted in the Interim Report on Key Financial Controls of Major Entities for 2021–22 that the existence and completeness of Defence’s inventory balances was a key area of financial risk due to the ‘variety and number of inventory items which are managed differently across a large number of geographically dispersed locations and through a number of IT systems.’¹⁸ The report outlined that the ANAO had tested the operating effectiveness of the controls implemented to confirm the existence and completeness of inventory. The ANAO made no audit findings on this topic.¹⁹

Rationale for undertaking the audit

1.17 As at 30 June 2022, Defence was managing general stores inventories (GSI) comprising more than 70 million items of various stocks valued at \$2.6 billion across 547 geographically dispersed locations. The efficient and economical management of the level of inventories (both operating stocks and reserve stocks) contributes to: the achievement of Defence’s purpose; and compliance with the accountable authority’s responsibilities for the proper use and management of public resources for which the accountable authority is responsible.

1.18 This audit provides independent assurance to the Parliament of the efficiency and economy of Defence’s management of GSI.

1.19 The JCPAA identified this potential audit topic as a priority of the Parliament.

Audit approach

Audit objective, criteria and scope

1.20 The audit objective was to examine the efficiency and economy of Defence’s management of its general stores inventory. To form a conclusion against the objective, the following high level audit criteria were adopted.

- Has Defence established an authorising and administrative framework for the efficient and economical management of general stores inventory?
- Can Defence demonstrate implementation of its framework for the efficient and economical management of general stores inventory?

1.21 The audit focused on Defence’s management of GSI for which CASG is responsible, comprising 99.87 per cent of total stock on hand for GSI. The ANAO did not conduct audit procedures over the remaining balance. Accordingly, the ANAO’s review of policies and procedures focused on the DEFLOGMAN series and the governance of CASG’s management of GSI.

1.22 The Defence IT system in scope for the audit was the Military Integrated Logistics Information System (MILIS). MILIS is an amalgamation of applications (with the core application being Ellipse®), interfaces, and modules that facilitate the management of Defence inventory. The ANAO did not examine the financial management of GSI in other systems, such as the Computer

18 Auditor-General Report No.31 2021–22 *Interim Report on Key Financial Controls of Major Entities*, p. 67.

19 *ibid.*, p. 69.

System for Armaments used for explosive ordnance, and the Pharmaceutical Integrated Logistics System used for controlled drugs.

1.23 The audit scope did not include:

- physical stocktaking or an examination of the contracts Defence has in place for management of inventory at warehouses²⁰;
- end use of GSI including the management and use of inventory at the military unit level and in operations, the receipting of goods, returning inventory, and the disposal of inventory; and
- the technical or environmental aspects of GSI storage, including work health and safety issues relating to handling and incident reporting.

Audit methodology

1.24 The ANAO reviewed Defence's:

- strategies and policies;
- operational guidance and manuals;
- training arrangements;
- supporting systems, including planning arrangements and procedures;
- governance and assurance arrangements, including monitoring, internal and external reporting, and reviews on the management of GSI; and
- inventory data for GSI forming inputs to reporting arrangements.

1.25 The ANAO also held discussions with relevant Defence personnel.

1.26 The audit was open to contributions from the public. One submission was received and reviewed.

1.27 The audit was conducted in accordance with ANAO Auditing Standards at a cost to the ANAO of approximately \$431,101.

1.28 The team members for this audit were James Woodward, Natalie Whiteley, Kim Murray, Michael Brown, Jude Lynch, Sally Ramsey and Amy Willmott.

20 The ANAO tests key controls on the existence and completeness of Defence's inventory through observation of the National Asset and Inventory Sample (NAIS) in the context of auditing Defence's financial statements.

2. Framework for managing inventory

Areas examined

This chapter examines whether the Department of Defence (Defence) has established an authorising and administrative framework for the efficient and economical management of its general stores inventory (GSI).

Conclusion

Defence has established an authorising and administrative framework for the management of its general stores inventory which partly addresses efficient management, and does not address economical management. Defence has been partly effective in maintaining its framework and has allowed it to degrade over time, pending implementation of new systems and supporting policies. The framework is not operating as intended to achieve the proper use and management of public resources.

Recommendations

The ANAO made three recommendations aimed at improving Defence's: guidance for holding GSI overstocks; assessment of risk relating to known non-compliance with its inventory management framework; and estimates of inventory management costs.

The ANAO also identified two opportunities for improvement relating to: the adjustment of policy and/or administrative arrangements to prevent avoidable non-compliance; and providing internal assurance that people undertaking a Designated Logistics Manager function have the skills and experience to undertake their role to the appropriate standard.

2.1 A fit for purpose authorising and administrative framework would enable Defence to provide internal assurance that GSI is managed in an efficient and economical manner and that obligations relating to the proper use and management of resources are being met.

2.2 A fit for purpose framework would include arrangements focused on the proper use and management of resources, including the achievement of efficiency and economy. Specific arrangements would include:

- up-to-date policies and processes to be followed to achieve proper use and management of resources;
- clear roles and responsibilities regarding the implementation of requirements;
- systems to support the implementation of requirements; and
- operational guidance and training to support officials in undertaking their responsibilities to implement requirements and achieve the proper use and management of resources.

Has Defence established an authorising and planning framework for the efficient and economical management of general stores inventory?

Defence has established but not fully documented a framework for the management of its inventory. The framework establishes both authorising and planning arrangements for the management of general stores inventory (GSI). The framework sets out roles and responsibilities within Defence and includes relevant policies and procedures to be followed. However, the authorising and planning frameworks for inventory stock holdings are not fully documented.

While the framework includes statements about the importance of cost-effective and efficient resource use, it does not directly address economical management of Defence inventory.

Defence has allowed the framework to degrade over time, and non-compliant practices to arise, while awaiting the implementation of new systems and supporting policies. Defence could not provide the ANAO with evidence that the senior responsible officers — for entity-wide logistics policies and procedures and for Capability Acquisition and Sustainment Group (CASG) policies and procedures — have assessed the risks associated with the current approach or approved it.

The framework is not operating as intended to achieve the proper use and management of public resources and elements of the framework established in 2020 to provide visibility of, and authority for, justifiable overstocking have not been implemented.

Policies and procedures

2.3 Defence has documented policies and procedures for the management of its inventory. The primary policy documents for Defence's management of its GSI are the:

- Defence Logistics Policy Manual²¹; and
- CASG Materiel Planning and Management policy.²²

21 The Defence Logistics Policy Manual is Part 2 of the Defence Logistics Manual (DEFLOGMAN) series. The DEFLOGMAN series, authorised by the Chief of Joint Capabilities as the accountable officer for joint logistics in Defence, contains five parts and is intended to provide a 'one stop shop' of joint logistics documents in Defence. It is a framework document under Defence's Administrative Policy Framework. Defence's Administrative Policy states that the 'Secretary and the CDF expect Defence personnel to comply with, and consistently apply, administrative policies contained in framework documents.' The Defence Logistics Policy Manual (which consists of 10 volumes) is the primary repository of Defence logistics policy.

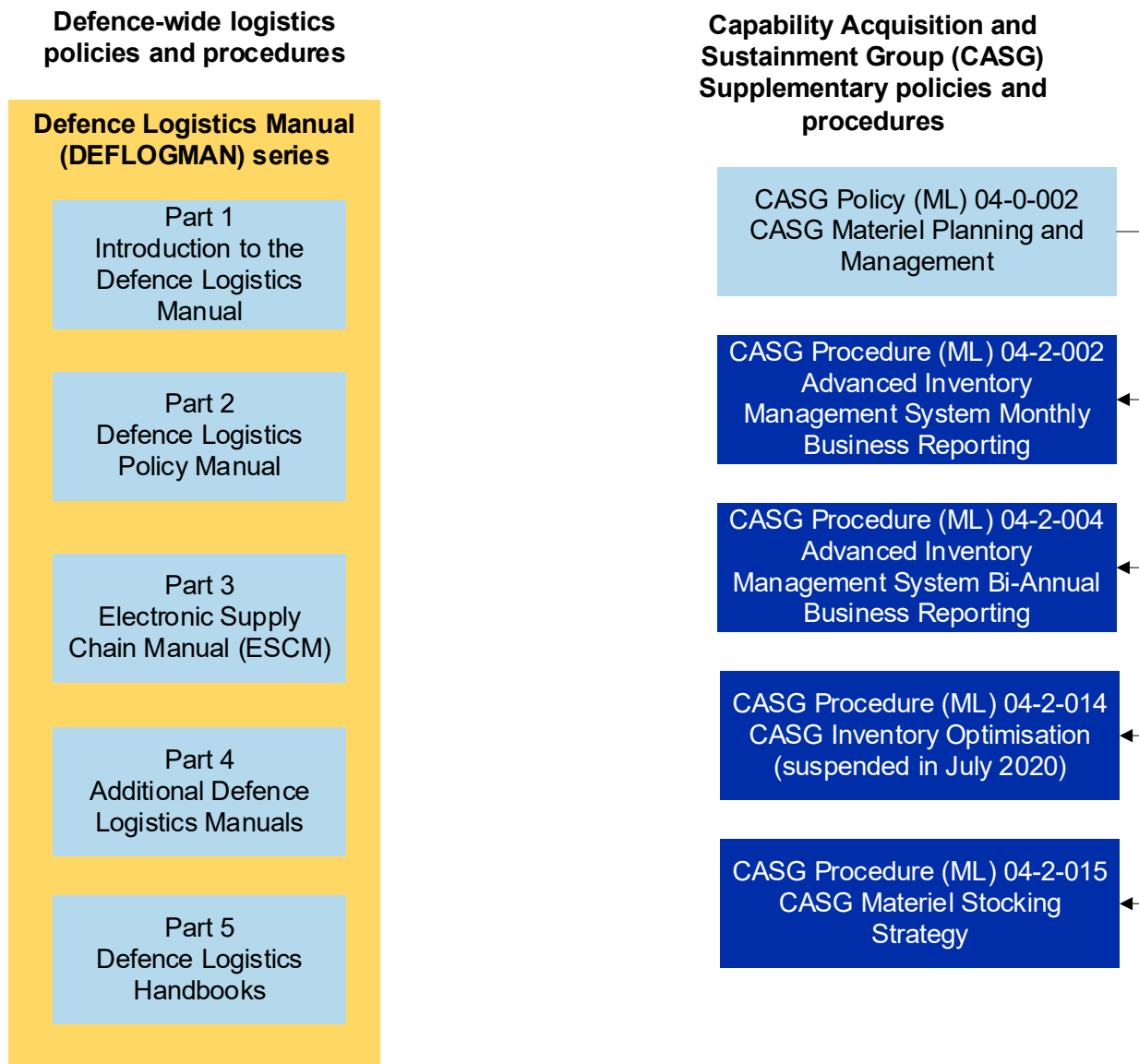
22 CASG policies are group-level policies applicable to CASG personnel, including Defence industry personnel engaged by CASG, and are not framework documents under Defence's Administrative Policy Framework. CASG's Quality Management Manual states that a CASG document 'cannot amend, negate or duplicate information existing in Defence documented information that applies to CASG, nor can it negate legislative, regulatory or Government Policy requirements.' Defence advised the ANAO in May 2023 that:

In July 2022, Integrated Product Support (IPS) was established as a new Business Function under the Defence Administrative Policy Framework with DEPSEC CASG appointed as the Accountable Authority. Materiel Logistics Function, as the IPS implementation lead, is creating framework policy documents under the DAPF.

As at May 2023 Defence was undertaking phase one of an Integrated Product Support Program. Integrated Product Support is defined by Defence as a 'discipline for acquiring and optimising in-service Support Systems to ensure ADF Mission Systems meet preparedness requirements.' The first phase of the Integrated Product Support Program, planned to be completed in June 2023, includes developing: policy principles; handbooks, manuals and other guidance artefacts; new streamlined Defence Australian Public Service (APS) Standard Classification Occupations for Integrated Product Support APS roles; and analysing the Integrated Product Support Specifications and their application in the Australian context.

2.4 Defence’s inventory management policies are supported by documented procedures — primarily those in the Electronic Supply Chain Manual²³ and CASG procedure documents that support the CASG Materiel Planning and Management policy. Defence’s inventory management policies and procedures are presented in Figure 2.1.

Figure 2.1: Defence’s policies and procedures for the management of GSI



Source: Defence documentation.

23 The Electronic Supply Chain Manual is Part 3 of the of the Defence Logistics Manual (DEFLOGMAN) series. The Electronic Supply Chain Manual is a web-based document consisting of 18 volumes. It is described by Defence as ‘the prime reference for integrated procedural support for the Defence Supply Chain’.

Defence's policy approach for the management of general stores inventory

2.5 The Defence Logistics Policy Manual states that Defence's objective for the management of its inventory is to ensure that Defence Capability Managers are provided with the agreed level of support in the most cost-effective manner.

2.6 The manual also sets out the organisational arrangements and decision-making principles that Defence considers are essential to 'ensure the efficient and effective use of resources', to support Capability Manager requirements, and to support 'One Defence initiatives in seeking a more cost conscious solution for Defence'.

2.7 While it refers to 'efficient' and 'effective' use, Defence's logistics management policy is not explicitly framed around the full requirements of section 15 of the PGPA Act (see Box 1) with regards to the proper use of resources. As noted in Box 1, 'proper' in relation to the use or management of public resources also includes the requirement for 'economical' use. In this context, the Department of Finance defines 'economical' as:

(in relation to the proper use of public resources) The extent to which the proposed use avoids waste and sharpens the focus on the level of resources that the Commonwealth applies to deliver results. This generally relates to approving the best cost option to deliver the expected results. Economical considerations must be balanced with whether the use will also be efficient, effective and ethical [emphasis in original].²⁴

2.8 Defence advised the ANAO in March 2023 that the next release of the Defence Logistics Manual 'would make more explicit linkages to Section 15 of the PGPA Act.'

Defence's Single Accountable Logistics Manager approach

2.9 Defence has not effectively operationalised its primary accountability mechanism for the management of inventory items, the concept of a 'single accountable logistics manager'. The following section examines Defence's operationalisation of this concept in its management of GSI.

2.10 The Defence Logistics Policy Manual states that:

Each IOS [item of supply] within Defence must have a single accountable Logistics Manager for In-Service Support within a Defence Group ... The Logistics Manager is the single point of accountability, facilitating inventory and optimisation support ... In doing so, the Logistics Manager may be responsible for the support of an IOS that is associated with a range of higher level products, capability systems and platforms. These are universally referred to as a Common Item.

DLMs [Designated Logistics Managers] are designated by and accountable to the Product Manager (or SPO [System Program Office] Director) or equivalent for the efficient and effective logistics management of assigned items including disposal ... In cases where a DLM is responsible and accountable to multiple SPO Directors/Product Managers/customers, any competing pressures can be managed effectively through SLAs [service level agreements]. DLM must act prudently, ethically and lawfully in accordance with Government, Defence and CASG policies and initiatives, including the *Public Governance, Performance and Accountability Act 2013*, the *Public Service Act 1999*, Australian Public Service and Defence Values, applicable Work Health and Safety requirements, Legal Services directions, and the Commonwealth Procurement Guidelines

24 The Department of Finance has whole-of-government responsibility for the administration of the Commonwealth finance law, which includes the PGPA Act. Key terms are defined at Department of Finance, *PGPA Glossary* [internet], available from <https://www.finance.gov.au/about-us/glossary/pgpa/term-economical>

...

The DLM must also:

- a. act in the best interests of the Commonwealth and provide excellent stewardship of assigned IOS to maximise efficiency, effectiveness and value for money, constantly seeking opportunities for continuous improvement and to ensure Defence Capability outcomes;
- b. employ best practice logistics management, ensuring that decisions are made and documented by appropriately qualified and experienced persons, and judiciously managing associated risks;
- c. communicate effectively with Capability Manager representatives, the relevant Product Manager/SPO Director, and other related elements of CASG, E&IG, CIOG, JLC, Defence Groups, and industry;
- d. lead, enable and motivate their logistics management team to achieve high performance, provide quality advice, and develop productive working relationships;
- e. bring any matters that adversely impact on the efficient and effective management of assigned IOS to the attention of the relevant Product Manager or SPO Director; and
- f. discharge financial reporting accountability

2.11 The Electronic Supply Chain Manual lists the primary functions of the DLM as including, but not limited to, technical and configuration management, procurement, inventory and repair management and disposal. This includes management of the following.

- The initial codification and cataloguing of inventory items in Defence systems of items upon their introduction into service to support the correct management of that item throughout its life.
- Inventory levels, which includes:
 - establishing the stocking policy to meet requirements set out in the agreement/s with Defence’s Capability Managers;
 - determining requirements to establish appropriate stocking levels;
 - maintaining stocking levels through replenishment activities; and
 - maintaining accurate records in Defence systems in accordance with the requirements in the Electronic Supply Chain Manual.
- Disposal of surplus and obsolete items, including the issue of disposal directives.
- The processes for hazardous chemicals and dangerous goods.

2.12 Defence advised the ANAO in March 2023 that DLM roles are filled by contractors, Australian Defence Force (ADF) personnel and Australian Public Service (APS) employees.²⁵ Defence further advised that:

- the Designated Logistics Manager (DLM) is not necessarily a single person or position and may be an organisation;

25 Defence also advised that contractors ‘may include employees of Defence contractors, individual contractors and/or through labour hire arrangements.’

The ANAO examined the effectiveness of Defence’s management of contractors in Auditor-General Report No. 43 of 2021–22 *Effectiveness of the Management of Contractors – Department of Defence*.

- the DLM may include several Stock Item Owners (SIOs)²⁶; and
- the Product Manager (PM) can hold the sustainment Integrated Logistic Support Manager (ILSM) responsibility but this is not the DLM.

2.13 Defence confirmed to the ANAO that it has no central record of its DLMs. That is, Defence is unable to identify who has been assigned as a DLM.

2.14 In response to a request for evidence that all items of supply had been assigned to a single accountable DLM, Defence advised the ANAO in November 2022 that:

Within the MILIS Catalogue, Catalogue Management tab, under Stock Item Owner drop down menu employees are listed. The Stock Item Owner (SIO) two digit code is derived from the MILIS Establishment module or organisation Hierarchy in which the employee is as an incumbent to an SIO position.

2.15 Defence’s advice conflates the Designated Logistics Manager (DLM) and Stock Item Owner roles. There is no basis in the relevant Defence policy (DEFLOGMAN) for these roles being equivalent. While Defence’s relevant IT system — the Military Integrated Logistics Information System (MILIS) — provides for items to be assigned a ‘Stock Item Owner’ (see paragraphs 2.18 to 2.20) to identify the managing team for that item within a System Program Office (SPO), MILIS does not identify the DLM for that item. As a result, Defence is unable to provide internal assurance through its IT system (MILIS) that its policy has been operationalised by ensuring that every item of GSI has been assigned to a DLM.

2.16 Defence advised the ANAO in March 2023 that it can provide internal assurance that items of supply relating to specialist military equipment have a DLM assigned to them, through its internal materiel agreements with capability managers.²⁷

- An Item is assigned to a Materiel Sustainment Agreement through the application identifier.
- Whilst there is no DLM record or table within MILIS, Defence does understand its SME [Specialist Military Equipment] and parent equipment's [sic]. By definition a SPO Director manages Products which will have a Sustainment manager. These are the DLMs. Materiel Acquisition Agreements and Materiel Sustainment Agreements are proof of the allocated DLM.

Authorising framework for general stores inventory stock holdings

2.17 The authorising framework for inventory stock holdings is not fully documented.

2.18 The Defence Logistics Policy Manual states that all inventory items ‘must’ be associated with an agreement between Defence capability managers and ‘In-Service Support agencies’. Within Defence these agreements include Materiel Acquisition Agreements (MAAs), Materiel Sustainment

26 Defence’s Electronic Supply Chain Manual does not define stock item owner, instead referring to a glossary entry for ‘Logistics Management – Inventory Control / Inventory Controller’, which notes that ‘stock item owner (SIO)’ is a Defence local job title for inventory management.

27 These are internal agreements between Defence Groups and the ADF Services which specify the scope, resourcing, priorities, performance and preparedness requirements for support of a capability system throughout its life, to support performance measurement. They include Materiel Acquisition Agreements (MAAs), Materiel Sustainment Agreements (MSAs) and Service Level Agreements (SLAs).

Agreements (MSAs) and Service Level Agreements (SLAs).²⁸ For Defence GSI, the 'In-service Support agency' is CASG, as the Defence group responsible for determining and maintaining the appropriate levels of GSI to support capability manager requirements.

2.19 Defence was not able to provide the ANAO with evidence of how it can provide internal assurance that all its GSI items are associated with an agreement between CASG and capability managers, as mandated by Defence policy. Defence advised the ANAO in March 2023 that while MILIS contains an agreement identifier field, agreement identifiers vary between the military Services and the field is not populated in every case. Defence further advised that:

Each GSI item has a Stock Item Owner (SIO) identified. Each SIO is mapped to a Product, Platform or Capability. Therefore, every GSI item can be linked to a Materiel Acquisition Agreement or a Materiel Sustainment Agreement.

2.20 While a stock item owner can be identified in MILIS against a stock code, ANAO analysis of 631,823 stock codes comprising GSI as at 7 February 2023 found that two per cent had no stock item owner. This represented less than one percent of total warehouse stock on hand. 97 per cent of stock codes with no stock item owner were stock codes recorded as being merged with other stock codes. Additionally, while MILIS contains a field for identifying products, platforms or capability associated with a stock code, Defence was unable to provide evidence that every GSI stock code was linked to a product, platform or capability.

2.21 As noted in paragraph 1.1, the Defence Logistics Policy Manual further states that Defence holds two broad categories of inventory — operating stocks and reserve stocks.²⁹ The Manual mandates that Defence's military Service Chiefs and Group Heads distinguish between operating stocks and reserve stocks and manage the requirements accordingly.

2.22 Notwithstanding the distinctions drawn between operating and reserve stocks in Defence policy, Defence advised the ANAO that in the case of GSI, operating and reserve stockholdings 'are entwined in the broader sense of CASG managing the Capability Managers preparedness requirements, [and] internal/external supply pressures.' As a consequence, for its GSI Defence has not established arrangements to manage compliance with the mandated requirement that operating stocks and reserve stocks be distinguished and managed accordingly. There is scope for relevant policy and/or administrative arrangements to be adjusted, to prevent avoidable non-compliance.

28 Defence policy also refers to Product Delivery Agreements (PDAs). In Auditor-General Report No.13 of 2021–22, *2020–21 Major Projects Report*, the ANAO reported at paragraph 1.42 that:

First advised by Defence in July 2016, Product Delivery Agreements (PDAs) were to be developed to replace the existing MAAs and Materiel Sustainment Agreements (MSAs). Defence advised the ANAO during preparation of the 2020–21 MPR [Major Projects Report] that this initiative is still in the concept phase and will not apply until a PDA framework is approved and implemented. In October 2021, Defence advised the ANAO that in the absence of the PDA framework, Capability Managers and Delivery Groups continue to use the Materiel Acquisition Agreement and Materiel Sustainment Agreement Framework.

29 The Electronic Supply Chain Manual does not define reserve stocks, instead referring to 'Safety Stock'. This is: The part of the working stocks which is maintained over and above operating stocks to ensure continuity of supply during unforeseen interruptions in normal stock replenishment and to cover unpredictable fluctuations in demand.

Opportunity for improvement

2.23 Where Defence establishes a mandatory requirement, it should also establish effective administrative arrangements to manage compliance with that requirement.

2.24 In response to this opportunity for improvement, Defence advised the ANAO in March 2023 that:

Logistics Assurance Branch (JLC) will work with CASG to develop a GSI Management Assurance Framework which will be based on risk and will capture evidence of compliance through independent sample and testing program. This framework will be based on the policies and procedures for the management of GSI under the Enterprise Resource Planning system.³⁰

Planning framework for general stores inventory stock holdings

2.25 The CASG Materiel Planning and Management Policy states that CASG is responsible for determining the ‘most appropriate level of stock to support service level agreements, Service Head Quarters preparedness requirements and supply chain deficiencies and opportunities.’

2.26 Planning for and setting the level of stockholdings is an important task. Too much inventory results in waste. Too little inventory can undermine preparedness efforts and impact capability. Settings are translated into procurement activity through requirements determination, which is the process by which Defence establishes the quantity of an inventory item to be procured.

2.27 The requirements determination process comprises assessment³¹, requirement computation³² and procurement determination.³³ The requirements determination process is supported by data and functionality within MILIS, which includes Defence’s Advanced Inventory Management System (AIMS). How MILIS supports the elements of the requirements determination process is outlined in paragraphs 2.84 to 2.98.

30 ANAO comment: Defence expects to replace MILIS with the Enterprise Resource Planning (ERP) system in June 2024. ERP remains under development.

31 Assessment applies to new items of inventory – that is items not already within the Defence inventory. It includes determining what item is required, establishing the basis for forecasting future requirements for the item (for example whether future requirements will be based on usage, rates of effort, or a Life of Type requirement), and establishing the item in Defence’s inventory management system (for GSI this is MILIS) with the appropriate codes that will determine how the item will be managed, and by whom. The DLM is responsible for the assessment of GSI items, which is required when an item is first introduced into the Defence inventory system. DLMs may re-assess items as required.

32 Requirement computation is the method of calculating the quantity of an item proposed for procurement having regard to existing stock holdings. The Electronic Supply Chain Manual sets out that factors to be considered during the requirements computation process are storage life limitations, establishing a requirements determination algorithm based on annual usage or Rate of Effort, stock holding policies and Stock on Hand.

33 Procurement determination is the process by which the quantity of an item to be procured is determined having regard to the data obtained from the assessment and requirement computation process. Defence procedures state that this decision considers: stock availability (to determine whether redistribution or purchase is the most appropriate action); the purchasing method (for example, Foreign Military Sales, or overseas or local commercial suppliers); economic order quantities; manufacturers’ pack limitations; and availability of funds. Defence’s Electronic Supply Chain Manual provides the following guidance to inventory managers when considering economic order quantities:

Where the actual or historical cost of the IOS [item of supply] is less than the administrative and inventory carrying costs then consideration should be given to ordering sufficient quantities that make the process cost effective.

2.28 The ANAO reviewed the instructional material established in Defence policy for the setting of stock levels for operating and reserve stocks. Defence's procedures for requirements determination do not set out explicitly how authorised levels of reserve stockholdings are to be considered. However, the procedures mandate that stock holding policies are to be considered during requirements computation.

Determining operating stock levels

2.29 The ANAO also reviewed Defence guidance relating to the authorising and planning arrangements for determining GSI operating stock levels and reserve stock levels. The ANAO found that Defence's arrangements for determining GSI stock holding levels are not fully documented.

2.30 The DEFLOGMAN series does not include any requirements pertaining to setting or authorising operating stocking levels.

2.31 In March 2023 Defence advised the ANAO as follows.

- Operating stock levels are derived from either the ADF Capability Manager or Defence Logistics Information Systems.
- The target settings for operating stock levels are contained within the relevant Materiel Sustainment Agreement, in the form of a Health Indicator, the Demand Satisfaction Rate.
- Evidence of the stocking level required is articulated in the Materiel Sustainment Agreement.

2.32 The ANAO sought clarification on the advice that target settings for operating stock levels are contained in Materiel Sustainment Agreements, as outlined in paragraph 2.31. Defence advised the ANAO in May 2023 that not all Materiel Sustainment Agreements contain target settings for operating stock levels:

Sustainment Performance Management System (SPMS) is utilised by CASG and Capability Manager representatives to report on Product performance metrics. SPMS application ... details Supply Chain KHIs [key health indicators], which are a linked to related product schedules and related MSA [Materiel Sustainment Agreements] via the KHI stream ... The Demand Satisfaction Rate (KHI) is one of the KHI within SPMS. Not all products measure DSR [Demand Satisfaction Rate] and some measure ... as a KPI rather than KHI.³⁴

Determining reserve stock levels

Preparedness objectives

2.33 The Defence Logistics Policy Manual states that:

the process of determining reserve stock requirements must be conducted collaboratively by the Capability Managers and Designated Logistic Managers ... based on agreed preparedness objectives contained in the Chief of the Defence Force Preparedness Directive (CPD). The preparedness objectives are supplemented by guidance provided by the Capability Manager.

2.34 Defence's Preparedness Management Policy outlines how the introduction of 'Preparedness Posture Settings' allows for the development of logistics requirements, including

³⁴ ANAO comment: the KHI Stream indicates the business process to which the KHI relates. Defence provided the ANAO with two examples of product delivery agreements that included inventory and assessed demand satisfaction rate key performance indicators.

deriving contingency stock from parameters included in these settings, specifically duration and response time. The policy also states the following.

- ‘Explosive ordnance and fuel are to be the priority commodities for which Logistics Preparedness Requirements are developed’.
- That ‘detailed processes to determine Logistics Preparedness Requirements will be developed as subordinate documents’, broadly involving: developing and maintaining logistics demand data sets; conducting supply analysis; determining preparedness requirements; and assurance of logistics preparedness requirements.
- That the policy ‘will be replaced with an enduring set of documents by Dec 2021 with support preparedness management procedures to be developed and confirmed in the same timeframe.’ Defence was unable to provide the ANAO with evidence that this had occurred.

2.35 Defence advised the ANAO in March 2023 that reserve stocks for fuel and explosive ordnance inventories are formally assessed as part of its Strategic Materiel Reserve (SMR) activities — such as SMR-Fuel and SMR-Explosive Ordnance — and that it plans to undertake a similar activity for General Stores Inventory (see paragraph 2.65).

2.36 More generally, Defence advised the ANAO in September 2022 that there is no line of sight between Defence’s GSI holdings and the Chief of Defence Force Preparedness Directive. In March 2023 Defence confirmed this advice and further advised that this was ‘due to security restrictions, between Preparedness directives and GSI holdings.’

Alternative measures to holding reserve stocks

2.37 The Defence Logistics Policy Manual further states that:

Reserve stocks must be held to support Work Up, Operational Viability Period and the Sustainment Period requirements. To ensure there are sufficient reserve stockholdings to support short notice operations and longer term Operational Preparedness Objectives (OPO) requirements, they need to be calculated (or otherwise assessed), considered and procured against a conscious risk management decision largely based on threat (scenario based), discretion, consequence, cost and availability.

...

the holding of reserve stocks is only one of many options for meeting preparedness requirements. Alternative measures include industrial surge, changes to procurement and maintenance plans, re-deployment of training or peacetime stocks and purchase from other nations.

...

funding priorities will inform the decision to establish physical holdings or establish arrangements and agreement to meet the contingency planning.

2.38 Defence was unable to provide evidence to the ANAO of any formal process where Defence actively considers and assesses the alternative measures set out in paragraph 2.37 in deciding whether to establish and maintain reserve stocks of GSI.

Divisional policies on stock holdings

2.39 The Electronic Supply Chain Manual states that the ‘decision on whether to stock an item or to buy for dues out is dependent on division policy and is to be included in the logistics instructions

for that division'. The manual defines 'dues out' as the 'total quantities due out for issue on a customer requisitions or warehouse transfers.'

2.40 Defence was unable to provide evidence to the ANAO of such decisions being documented in divisional logistics instructions, as required by the manual.

Prioritising reserve stock levels

2.41 The Defence Logistics Policy Manual further requires the military Service Chiefs and CASG to prioritise reserve stock items as either 'critical' or 'important' items, as follows.

- (a) Critical items are 'those that are operationally essential' to meet requirements.
- (b) Important items are 'those that are not operationally essential but that provide for enhanced operational performance; and those that are important to effective and efficient support, that can be deferred for a limited time without unacceptable consequences, but that cannot be deferred for as long as Contingency Provisioning Lead Time.'

2.42 Defence advised the ANAO in March 2023 that Defence systems do not support the identification of 'critical' versus 'important' items as described in the logistics policy manual. Defence also noted that there was 'a difference between Supply Critical and Engineering Critical,' although this distinction is not made in Defence policies and procedures.³⁵ Defence provided the ANAO with an example of a Materiel Sustainment Agreement (MSA) which included a list of critical items, including items which appeared to be GSI. The agreement did not state whether items were 'engineering critical' or 'supply critical' and did not include 'important' items.

Stock holding policies established by Designated Logistics Managers

2.43 The Defence Logistics Policy Manual states that reserve stock holding policy applies to all classes of supply needed to be held by the ADF to meet contingencies.³⁶ Stock holding policies in Defence may be expressed as an entitlement quantity, the number of operating days, reserve or contingency stock requirements.

2.44 Defence's Electronic Supply Chain Manual explains that establishing a stock holding policy is important because it 'will impact on the total requirements for an item at all levels within the supply chain'. The manual states that establishing stocking policy is a function of the Designated Logistics Manager.

35 Defence's advice to the ANAO outlined the difference between 'Engineering Critical' and 'Supply Critical' items.

Engineering Critical will be annotated in engineering and technical publications (e.g. items that have no redundancy if they fail operation). It is unusual that a piece of GSI will fit this description.

Supply Critical is totally different as it is the risk that the item not being available that determines its criticality. There is no process within the supply world that determines this. The earliest health indicator to identify a supply critical item is if there are repeated priority demands for the item.

36 Defence documents define stock holding policies as policies that determine whether items are to be stocked for distribution from a central point, stocked at unit level against agreed operational requirements or purchased on demand or wastage.

2.45 Defence advised the ANAO that there is no mandated requirement in these documents to develop stock holding policies.³⁷

Lines of accountability for determining reserve stocks

2.46 The Defence Logistics Policy Manual further states that ‘the process of determining reserve stocks for the ADF requires clear lines of accountability for stating the materiel liability and ensuring other agencies or organisations deliver the necessary support to agreed levels of quantity, quality, cost and time’.

2.47 Defence informed the ANAO that the process of determining reserve stocks is managed between CASG (CASG Domains, Project Management Offices and System Program Offices) and the respective ADF Headquarters and Force Element Groups. In October 2022, Defence advised the ANAO that:

Reserve Stock Quantity (RSQ) represents the amount of inventory reserved for contingency requirements. The amount of RSQ (if any) is determined externally to the AIMS [Advanced Inventory Management System] processes and is either interfaced or entered manually online.

2.48 Defence was unable to provide evidence to the ANAO of a process for determining reserve stock quantities. However, the Operational Supply Chain Supplement to the Electronic Supply Chain Manual provides guidance for the management of contingency holdings or reserve stock quantities held by or on behalf of Army.³⁸

JLC [Joint Logistics Command], in conjunction with CASG [Capability Acquisition and Sustainment Group, manage a number of contingency caches, stores, equipment and vehicles on behalf of the Services and HQJOC [Headquarters Joint Operations Command]. The majority of contingency stores JLC manage are land materiel, managed on behalf of Army, in support of the Force Generation Cycle (FGC), Defence Aid to the Civil Community (DACC), Humanitarian Aid and Disaster Relief (HADR) and Defence Force Aid to the Civil Authority. Chief of Army articulates the ADF land materiel contingency holding requirements via an annual directive.

...

Contingency holdings, less explosive ordnance (EO) and camp stores designated as minimum stock on shelf are to be categorised on MILIS as category CH (cache).

...

The effective management of contingency holdings is critical to ensure key contingencies can be supported within dedicated timeframes. To achieve effective and efficient management CASG, through the respective National Fleet Managers (NFM) and the JLU [Joint Logistics Unit] are responsible for the daily management of contingency stock. JLU will include contingency stores in

37 Army has developed a stock holding policy, the most recent version of which was released on 13 July 2021. It was first released in 2015 and later incorporated into the Electronic Supply Chain Manual. It is intended to ‘achieve efficiencies through the reduction of surplus stock holdings’ and ensure the long-term sustainability of the supply chain. The policy notes that historically, Army units have ‘adopted a risk adverse perspective to stock management’ which ‘has resulted in inefficient stockpiling, i.e. the hoarding of material.’ The policy directs that stocking levels be maintained in accordance with the authorised stock holding levels set by the policy, and depending on the item type, are either based on historical usage, an authorised entitlement, or days of supply. Defence was unable to provide evidence that Defence has obtained assurance that stockholdings are being maintained in accordance with the Army stock holding policy. Defence advised that there were no similar stock holding policies maintained by Navy and Air Force.

38 Defence was unable to advise whether there was similar guidance for the management of contingency holdings or reserve stock quantities held by or on behalf of Navy or Air Force.

stocktake schedules and non-technical and technical inspection programs. The NFM will ensure stock rotation; sustainment, replenishment and governance processes are established and maintained.

To ensure an accurate picture of cache holdings, CASG with assistance from JLC will provide a quarterly report to AHQ [Army Headquarters].

2.49 Defence advised the ANAO in March 2023 that AIMS forecasting looks at reserve stock quantity in Joint Logistics Unit ‘parent’ warehouses and that while the air domain manages reserve stocks at this level, the land and maritime domains do not, with Army and Navy holding stock at ‘subordinate’ warehouses. Defence further advised that the maritime and land domains manage reserve stock as part of normal consumption.

Agency support agreements and reserve stock levels

2.50 The Defence Logistics Policy Manual states that where necessary, agreed levels of reserve stocks will normally be referred to in agency support agreements (Materiel Acquisition Agreements or Materiel Sustainment Agreements) developed between the supporting agencies and the respective Services.

2.51 Defence advised the ANAO in March 2023 that:

Materiel Acquisition Agreements (MAAs) and Materiel Sustainment Agreements (MSAs) cover Raise, Train, and Sustain (RTS) activity and then what the Capability Manager requires based on their Military Response Option (MRO) analysis. This is not necessarily referred to as Reserve Stocks.

Joint contingency reserve stocks

2.52 The Defence Logistics Policy Manual also requires CASG, under the direction of and in collaboration with the Service Chiefs, to establish and manage a Joint Contingency Reserve Stock for inventory items with a high degree of commonality among the ADF Services (known within Defence as Common Items — see paragraph 2.10).³⁹

2.53 Defence was unable to provide the ANAO with any agreements, plans, or documents for any such Joint Contingency Reserve Stocks.

Reserve stocks as a capital investment

2.54 The Defence Logistics Policy Manual refers to establishing ‘reserve stocks as a capital investment’.

2.55 In contrast, Defence advised the ANAO in March 2023 that ‘GSI would not be a capital investment as it is consumed’. Defence further advised that:

Where the initial value of an acquired asset is above the relevant capitalisation threshold ... the asset is expected to be used for more than twelve months, and the costs can be measured reliably, the item must be recorded (capitalised) as an asset, against the relevant asset class and in the appropriate logistics or financial management system (i.e. MILIS or ROMAN). The asset is referred to as a ‘Reportable Asset’.

39 For example, food items, packaged water, construction items, hand tools and general household items.

Review of reserve stocks

2.56 The Defence Logistics Policy Manual requires the application of controls and reporting arrangements to maintain and preserve approved reserve stockholding levels. Defence policy further requires that reserve stockholdings be reviewed on a regular basis to ensure that they continue to meet changing preparedness objectives.

2.57 Defence advised the ANAO in March 2023 that the review of reserve stockholdings is provided for through Materiel Acquisition Agreements and Materiel Sustainment Agreements. The MSAs provided by Defence for ANAO review (discussed at paragraph 2.42) linked ‘critical’ reserve stock (see paragraph 2.41) items to annual Defence Management and Financial Plan planning activities.⁴⁰

Managing for a balanced inventory

2.58 Defence’s Electronic Supply Chain Manual states that ‘one goal of inventory management is to establish and maintain a balanced inventory’. It describes a balanced inventory as one where ‘appropriate levels of held stock satisfy an acceptable proportion of customer demands, within cost constraints.’ It further states that ‘an understocked inventory will result in poor customer satisfaction, whereas an overstocked inventory is indicative of poor funds utilisation.’

2.59 CASG’s Materiel⁴¹ Planning and Management Policy is intended ‘to ensure that materiel management is accountable, auditable and ensures a greater balance and certainty of the inventory position’. The policy defines balanced inventory as:

the most efficient and effective stocking levels to meet operational and capability requirements, as stated in Material [Materiel] Sustainment Agreements, including Safety Stock that ensures against any unforeseen emergency, fluctuation and/or expenditure, delays in production and transit or misfortune.

2.60 To support the achievement of a balanced inventory and the related concept of ‘materiel optimisation’, CASG’s Materiel Planning and Management Policy contains two policy directives. These are outlined in Box 3 below.

Box 3: Capability Acquisition and Sustainment Group (CASG) Materiel Planning and Management Policy directives — materiel optimisation and balanced inventory

First policy directive

This policy directive mandates ‘materiel optimisation’ for every item of inventory, with the goal of providing uninterrupted customer service levels at optimum cost. The policy states that compliance with the inventory optimisation policy will:

- achieve procurement that supports a balanced inventory position (neither understocked or overstocked across the network);

40 The Defence Management and Financial Plan (which is provided to government with the department’s portfolio budget submission each year) outlines the Defence budget allocations over five major categories — acquisition, sustainment, workforce, operations and operating — with most of the budget being allocated to the first three — across 20 years. See Auditor-General Report No.7 2022–23 *Defence’s Administration of the Integrated Investment Program*, paragraphs 1.25 to 1.30 and paragraph 2.3.

41 The term ‘materiel’ within CASG policy documents includes inventory.

- manage the supply network requirements through the cross-levelling of stock;
- eliminate unfunded materiel sustainment expenditure; and
- fulfil the requirements of Capability Managers in support of normal operations, exercises and contingencies.

The policy directive requires CASG Product Support Managers^a to ‘maximise the relationship between costs, constraints, risks and target service levels for operating stock and supplementary stocking policies, and authorises CASG Designated Logistics Managers to implement ‘materiel planning strategies to support the Defence supply chain.’

The policy directive refers to a supporting procedure, which is described as providing ‘the effective planning processes for achieving a balance of inventory across the Defence supply chain’. As discussed further in paragraph 2.69, the supporting procedure was ‘suspended’ by CASG in July 2020 for a complete re-write, which has not occurred.

Defence advised the ANAO in March 2023 that the ‘materiel optimisation’ requirement was first implemented in 2011 in the context of the Balanced Inventory Project, which ran from 2011 to 2013^b, and that the rationale for the requirement was to change inventory management practices that had resulted in Defence carrying significant inventory overstocks (see Appendix 3 of this audit report). The Balanced Inventory Project transition plan identified risks that ‘could jeopardise the successful transition and ability for DMO [the Defence Materiel Organisation] to leverage of[f] the environment established by the BIP [Balanced Inventory Project]’. The identified risks included the following.

- Workload associated with the transition to future improvement projects may result in a perception of loss of importance of previous work carried out by BIP.
- DMO perception that the inventory management environment has improved resulting in downgrading the priority of continuous improvement in logistics management.

Defence further advised the ANAO in March 2023 that optimising inventory so that it could respond to a threat would be an important part of how inventory was managed in the future, including determining what is required to respond to scenarios in a preparedness context. Defence was giving deeper consideration to what stock it held and making sure it was fit for purpose in the context of a ‘changing geo-strategic environment’ and the 2023 Defence Strategic Review commissioned by government.^c

Second policy directive

This policy directive requires stock assignment codes to be assigned to inventory items in MILIS to justify, and provide visibility of, variations to a balanced inventory in the form of overstocking.

CASG’s ‘materiel optimisation’ policy sets out eight MILIS stock assignment codes^d for use by CASG Domains and SPOs and assigns approval delegations^e and expiration times to each.

As discussed further in paragraph 2.71, Defence has not complied with its documented stocking strategy policy directive.

Note a: The role of Product Support Manager is usually performed by CASG SPO Directors.

Note b: The Balanced Inventory Project transition plan included a schedule for ongoing SPO health checks, with reference to a centralised inventory management Centre of Excellence ‘to ensure monitoring of the PMF [performance measurement framework] and future health of inventory management.’

Note c: A public version of the Defence Strategic Review (DSR) was published on 24 April 2023.⁴²

Note d: The eight stock assignment codes are: Contingency Stock; Deployment Allowance; Global Slow-Moving Items; Life of Type (LOT); Insurance Stock; Project Stock; Value for Money Stock; and Safety Stock.

Note e: The delegations to approve supplemental stocking strategies range from the Capability Manager to APS 6 or equivalent positions depending on the stocking strategy.

Source: Defence documentation and Defence advice to the ANAO.

2.61 The ANAO's analysis found that as of 7 February 2023, some 1,499,235 items, representing 2.08 per cent of GSI warehouse stock on hand, were calculated to be 'balanced' by Defence's Advanced Inventory Management System (AIMS) (see footnote 83 and Figure 3.1). Of those items, 74.08 per cent was comprised of items assigned inventory segmentation codes that identify that AIMS should be used to conduct requirements determination (see paragraphs 2.86 to 2.89).

2.62 The achievement of a 'balanced inventory' and 'materiel optimisation' of GSI, as required by the policy directives outlined in Box 3, would contribute to achievement of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) requirement for proper use and management of public resources, including efficient and economical use. As discussed in Box 3, at the time of this audit the first policy directive was not being implemented by CASG and the second policy directive was not being complied with within CASG.

2.63 The policy directives are intended to assist relevant personnel to operationalise the policy objectives of achieving 'balanced inventory' and 'materiel optimisation', including the rationale for holding overstocked GSI. Overstocking without a clear policy rationale introduces the risk of inefficient and uneconomic procurement and management of inventory. Defence senior management should clarify the status of the two policy directives, and review their implementation, to provide clear direction to responsible personnel and assurance regarding the proper use and management of public resources.

42 Defence Strategic Review, 24 April 2023, available from: <https://www.defence.gov.au/about/reviews-inquiries/defence-strategic-review> [accessed 10 May 2023]. The review made the following recommendations relevant to Defence's management of GSI.

A national logistics support concept that considers strategic and industrial policy needs, and civilian, local and state government and military logistics capabilities, should be developed by 2025.

A National Support Division should be established within Defence by 2024 to develop concepts and conduct engagement to harness the nation's economic, industrial and societal strength.

Commander Joint Logistics and Commander Joint Health should be adequately resourced to deliver Defence logistics and health networks that are able to deliver persistent support and sustainment for operations.

The Australian Government agreed to the first and third of these recommendations and agreed 'in-principle' to the second recommendation. The Government stated that recommendations agreed to in-principle will be further developed and considered as part of a National Defence Strategy to be delivered in 2024. See p. 108 of the public version of the review.

Recommendation no. 1

2.64 The Department of Defence clarify the status, and review the implementation, of the Capability Acquisition and Sustainment Group's Materiel Planning and Management Policy and associated procedures, to ensure that there is a documented rationale for holding general stores inventory identified as overstock.

Department of Defence response: *Agreed.*

2.65 *Defence will consider the output of key strategic inputs to Defence preparedness and planning, including the Defence Strategic Review (DSR) and Strategic Materiel Reserve (SMR) reviews, and strengthen CASG materiel planning and overstocking management policy and procedures.*

Maintenance of policies and non-compliant practices

2.66 The ANAO examined Defence's maintenance of, and compliance with, key policies and associated procedures that are applicable to the management of its GSI.

2.67 The ANAO's review indicates that Defence has not maintained key documents in its policy and procedural framework for GSI to ensure the documents are contemporary and relevant. The principal shortcomings in policy and practice are discussed below.

Out of date policies

2.68 The Defence Logistics Policy Manual references the following out-of-date information.

- Superseded policy documents, such as the Defence Security Manual. The manual was replaced by the Defence Security Principles Framework in July 2018.
- Both CASG and Defence Materiel Organisation (DMO) Accountable Authority Instructions. The DMO was disbanded in 2015 and its principal responsibilities were transferred to CASG. As a group within Defence, CASG does not have a separate accountable authority.
- Superseded legislation — the *Financial Management and Accountability Act 1997* — which was replaced by the PGPA Act in 2013.
- Historical Defence organisational and administrative arrangements. There are references to the DMO and the manual identifies the Commander Joint Logistics (CJLOG) as the senior accountable officer for logistics, which has not been the case since 2020.

2.69 CASG's Materiel Planning and Management policy on mandating inventory optimisation directs the reader to a supporting procedure on how to optimise inventory. That procedure was 'suspended' by CASG in July 2020 for a complete rewrite. This has not occurred, leaving Defence staff without a procedure on how to optimise inventory since that time.

2.70 CASG has not reviewed its inventory management procedures in accordance with the requirements of its Quality Management System.⁴³ All four of the CASG Materiel Logistics procedure documents relevant to this performance audit were 'cancelled', based on the sunset

43 CASG's Quality Management Manual describes CASG's Quality Management System as a single, Group-wide system comprising 'all policies, processes, and practices in place in CASG that support CASG to achieve quality outcomes.'

provisions included in each procedure. Three documents were cancelled in 2020 and one was cancelled in November 2022. Based on the sunset provision within CASG's Materiel Planning and Management Policy, the policy itself was 'cancelled' at the end of March 2023.

Non-compliant practices

2.71 CASG practice with regards to central performance reporting of inventory balances, to determine whether inventory is optimised, is non-compliant with the documented CASG procedures. This is discussed further in paragraphs 3.11 to 3.17.

2.72 Defence has not complied with its documented stocking strategy policy directive. Since June 2020, the policy directive has required stock assignment codes to be assigned to inventory items to justify, authorise, and provide visibility of variations to a balanced inventory in the form of overstocking (see Box 3).⁴⁴ When CASG's Materiel Planning and Management Policy was updated to the current version in March 2021, as discussed in Box 3, Defence retained the policy directive to use stock assignment codes. Defence records indicate that the reference codes used to assign the stock assignment codes to an inventory item in MILIS are being used by only one of 64 System Program Offices (SPO).

Defence's management of identified shortcomings

2.73 Regarding the identified shortcomings in policy and practice discussed in paragraphs 2.66 to 2.72, Defence expects that its existing policy and procedural framework for the management of its inventory, which includes GSI, will be replaced to coincide with the roll-out of the relevant component of Defence's new Enterprise Resource Planning (ERP) system, which will replace MILIS (see paragraphs 2.84 to 2.98 below). The Defence Audit and Risk Committee was advised in May 2023 that this component of the new ERP system was expected to 'go-live' in June 2024.⁴⁵ In the meantime, Defence's day-to-day business operations continue to rely on current systems.

2.74 Defence's focus is therefore on developing new and revised policies in support of the forthcoming ERP system rather than updating existing policies and procedures supporting the current system.

2.75 The Commander Joint Logistics (CJLOG, military two-star officer) noted, at the 22 April 2021 meeting of the Defence Logistics Committee (DLC), that:

One of the key areas through which I ... provide guidance and direct the [Defence] Enterprise is through doctrine, logistics policy (DEFLOGMAN Part 2) and procedures ... I understand the frustration from all areas of the Enterprise in the lack of currency of these documents and the impact that this is having in key areas, such as those personnel in Projects for example. The Defence Logistics Doctrine and Policy Working Group (DLDPWG) will recommence in May 21 ... I've directed the DLDPWG to review the current policy structure's fitness for purpose and a priority order for review or update of that policy for presentation 'out of session' before the next DLC [Defence Logistics Committee]. This will include any agreed pauses to policy chapter updates based on guidance from ERP.

44 In March 2023, Defence advised the ANAO that the stock assignment codes had been developed and agreed by the three military services in 2018–19 because 'all three services allocate Reserve Stock Quantities (RSQ) uniquely' and that the codes were being included in the ERP design.

45 The advice to the Defence Audit and Risk Committee noted that as at 4 April 2023 the ERP program had not met its milestones for system integration testing, user acceptance testing, deployment and other key milestones and that the extent of the impact to schedule was unknown.

2.76 Defence advised the ANAO in May 2023 that the Defence Logistics Committee did not consider the outcomes of the Defence Logistics Policy Working Group review, but would be updated on a new Defence Logistics Document Suite Reform at the May 2023 meeting of the Defence Logistics Council.⁴⁶ The Defence Logistics Document Suite Reform was formally launched on 27 April 2023 via a minute issued by CJLOG in their role as Defence Logistics Authority Delegate (see footnotes 47 and 49). The minute set out that the aim of the Defence Logistics Document Suite Reform is ‘to deliver a revised set of authoritative enabling documents and to create a new Defence Logistics Document Suite (DLDS).’⁴⁷ The minute also noted that:

The current suite of the logistics documentation is not fit for purpose. It is a pre-First Principles design; and there is no alignment between the Accountability Framework and the end processes which have accountabilities and responsibilities that are unclear. The existing document suite does not effectively support the contemporary Defence Logistics Network (DLN) and is not ERP-ready. The documentation does not reflect the strategic priorities at Reference B [Defence Enterprise Priority Statement 2022]; nor does it enable the joint environment required ... This area has also previously not been resourced to support the DLN and has been allowed to atrophy over the last decade.

2.77 The initial release of the Defence Logistics Document Suite is scheduled for 30 June 2023. The 27 April 2023 CJLOG minute, issued when formally launching the Defence Logistics Document Suite Reform, outlined the approach to managing the new framework documentation as follows.

The new DLDS [Defence Logistics Document Suite] is 'Joint by Design' and specifically tailored to support the DLN [Defence Logistics Network]. The DLDS will improve the way information is developed, approved, integrated and accessed. The approved suite of documents will be published on the JCG [Joint Capabilities Group] Business Management System (BMS) website, which will function as a single source of truth across the DLN. The DLDS is organised to highlight document categories, hierarchy and relationships, and shows the interaction between all logistics policy, concepts, doctrine and procedures.

...

From 1 July 2023, there will no longer be direct user access to ESCM [Electronic Supply Chain Manual]. Legacy ESCM content will be available only via links from the relevant new DLDS manual on the BMS.

If the ESCM legacy content relates to systems being replaced in ERP T1B or T2 [Enterprise Resource Planning Tranche 1B or Tranche 2] (i.e.: by June 2024), then the content will not be moved, but will be accessed via a link from the new Manual in BMS to the content that will remain in the AuthorIT repository; As legacy content is updated for ERP rollout it will be moved into the BMS repository and the reference links in the BMS manual updated. The intent is that by 30 June 2024, when ERP is rolled out, there will be no further ESCM legacy content in AuthorIT.⁴⁸

46 The Defence Logistics Committee has been renamed the Defence Logistics Council.

47 The need to reform the Logistics Document Suite was identified in a March 2022 minute by CJLOG. It was one of a number of initiatives identified in the minute, which outlined priorities for generating and training an ‘Integrated Logistics Workforce’.

48 ANAO comment: the minute noted that Defence had reviewed the Electronic Supply Chain Manual and determined that it comprised 3531 documents. The minute also noted that work had commenced on transitioning these documents to the new document suite and that regular reports would be provided to a new Defence Logistics Document Suite Working Group, reporting directly to the Defence Logistics Council, which had been established to ensure ‘broad-based involvement of stakeholders to support development for publication in Defence Logistics Manuals and Processes’ (discussed further in paragraph 3.4).

2.78 Defence did not provide the ANAO with evidence that the senior responsible officers — for entity-wide logistics policies and procedures and CASG policies and procedures — have assessed the risks associated with, or approved, the current approach.⁴⁹ As discussed in paragraph 2.74, that approach involves a focus on supporting the forthcoming ERP system rather than the current system. In effect, that approach allows the existing framework of policies and procedures to degrade over time while awaiting the implementation of the logistics management component of the ERP system.

2.79 Defence advised the ANAO in May 2023 that:

CASG policies and procedures are released under authority of the appointed Functional Lead in accordance with the CASG Balanced Matrix. Within the CASG Balanced Matrix, each Functional Lead is accountable as the Senior Responsible Officer for the effective delivery of functional services and advises on all personnel and service requirements within their Function. They develop, implement and maintain policies, processes and training that support all their function members to best deliver functional services supporting capability delivery. This includes the Functional Lead, as Senior Responsible Officer assessing and appropriately managing or accepting the risks associated with those policies and processes.⁵⁰

2.80 Defence advised the ANAO in March 2023 that a contributing factor to the degradation of the policy and procedural framework for the management of GSI is a competitive workforce environment, which has resulted in a loss of relevant skills and capability. Defence further advised that:

Although a formal risk assessment has not been conducted, remediation of the risk has commenced. In part, this has been synchronised with the implementation of the Enterprise Resource Planning system [ERP], but has also formed part of broader remediation effort ... This effort will address the degradation identified by the audit.

2.81 In summary, the current approach of not updating policy and procedure documents, in favour of waiting for the new ERP system to be delivered, means that Defence has allowed the policy and procedure framework for inventory management to degrade and has allowed non-compliant practices to become established (see paragraphs 2.71 to 2.72). Defence senior management should assess the risks and consequences of its current approach and related non-compliance with existing requirements.

49 Defence advised the ANAO in March 2023 that the Chief of the Defence Force (CDF) appointed the Chief of Joint Capabilities as the Defence Logistics Authority (DLA) on 24 October 2022. Defence's Administrative Policy Instruction identifies the Deputy Secretary CASG as the accountable officer for the provision of 'integrated product support' to Defence's Capability Managers.

50 ANAO comment: the Functional Lead for the Materiel Logistics Function is the Executive Director Materiel Logistics Function.

Recommendation no. 2

2.82 The Department of Defence assess:

- (a) the risks associated with the current approach of allowing the existing framework of logistics policies and procedures to degrade over time while awaiting the implementation of the logistics management component of the Enterprise Resource Planning system; and
- (b) whether the current approach and related non-compliance can be authorised or needs to be re-aligned with documented requirements.

Department of Defence response: *Agreed.*

2.83 *Defence is in the final stages of implementing the Logistics Document Suite Reform Program which will update and centralise all policy and procedures across the Defence Logistics Enterprise. When completed, Defence will ensure compliance with the updated policy and procedures to address the risks identified.*

Has Defence established systems to support the implementation of the authorising and planning framework?

Defence has established systems to support implementation of its authorising and planning framework for GSI. These include the Military Integrated Logistics Information System (MILIS).

A weakness of Defence's systems is that they do not provide visibility of the holding and administrative costs associated with its GSI. Defence's inventory management system includes 'notional' holding and administrative costs established in 1999, and the government's *2008 Audit of the Defence Budget* (the Pappas Review) found that Defence had materially underestimated those costs. In effect, not all relevant inventory management costs are well understood by Defence. This affects the ability of accountable logistics managers to make efficient and economical inventory procurement decisions and Defence is not well placed to demonstrate the efficiency and economy of its inventory management arrangements.

Use of the Military Integrated Logistics Information System (MILIS)

2.84 The Defence Logistics Policy Manual mandates the Military Integrated Logistics Information System (MILIS) as the core logistics system for the management of Defence inventory.⁵¹ MILIS is an amalgamation of applications (with the core application being Ellipse®), interfaces and modules that facilitate the management of Defence inventory. MILIS is also the official record of Defence's GSI holdings and is utilised for financial reporting requirements and audit and controls purposes.

⁵¹ MILIS replaced Defence's Standard Defence Supply System (SDSS) in July 2010.

2.85 The three applications within MILIS that are most relevant to this audit are: the core application Ellipse®; the Advanced Inventory Management System (AIMS)⁵²; and the Inventory Measurement and Analysis Tool (IMAT).⁵³

2.86 As discussed in paragraph 2.27, one of the functions of MILIS is to assist users to undertake the requirements determination process. The assessment process, described in footnote 31, determines whether AIMS or the core requirements determination functionality in MILIS (the Ellipse® application) will be used to generate proposed replenishment quantities for the inventory item, or whether this can be done manually. MILIS (Ellipse®) and AIMS generate recommended replenishment amounts based on algorithms that use system generated and manually entered variables. Where the Designated Logistics Manager (DLM) or other authorised manager is not satisfied with the system generated calculation, they can manually override it.

2.87 Defence policies and procedures do not set out the rationale for using one method over the other. Further, Defence policy and procedure documents provide inconsistent directions on whether the MILIS core functionality or AIMS should be used to support the requirements determination process.

- The Defence Logistics Policy Manual states that decisions concerning inventory planning ‘must’ be made with due consideration given to ‘using approved analysis tools (ie Advanced Inventory Management System)’.
- CASG’s policy on materiel planning and management, its monthly reporting procedure, and one chapter of the Electronic Supply Chain Manual, state that the use of AIMS to support the requirements determination process is mandatory for all items of inventory managed by CASG.⁵⁴ Elsewhere in the Electronic Supply Chain Manual the use of AIMS is mandated only for certain types of inventory managed by CASG.

52 AIMS is an application that can be used by Defence personnel to assist with forecasting inventory requirements. The General Adaptive Inventory System (GAINS) is the underlying software for AIMS. Defence documents state that AIMS is:

designed to optimise Customer Service Levels and Inventory costs, to allow users to make pro-active strategic Inventory Management decisions, reduce "re-active" Inventory Management and to provide users and management with both Current and Ideal Inventory profiles. This is achieved by establishing stock levels that ensure Service levels are achieved, by determining the minimum inventory investment required to ensure that the specified service level is achieved, by identifying future inventory imbalances and recommending action to prevent these imbalances from occurring.

...

designed to forecast when an item is likely to be required; and applying this forecast against the stock position at the end of lead time, creating an appropriate replenishment plan. This replenishment plan is the outcome of various calculations, utilising factors such as past usage, Stock-on-Hand, Existing Replenishment Orders (ERO), Safety Stock and other variables.

53 IMAT provides the reporting capability for MILIS. The underlying core software for IMAT is COGNOS. Defence records indicate that Defence has identified the following issues with IMAT: ‘Reliability/performance issues due to outdated IT infrastructure’; ‘Complex design and build, with restricted IP [intellectual property] access’; and ‘High development and sustainment costs.’

54 The Electronic Supply Chain Manual states that ‘the Advanced Inventory Management System (AIMS) is the mandated tool for requirements determination for all Commonwealth owned and Commonwealth managed inventory within CASG. Inventory Segmentation Code AC [AIMS Consumable] and AR [AIMS Repairable] must be assigned to these items.’

- Defence documents indicate that in June 2020 CASG removed the directive from its policy on inventory management that mandated the use of AIMS.⁵⁵ Defence confirmed in March 2023 that neither the decision to remove this directive, nor the rationale for the decision, was documented.

2.88 Defence records indicate that in practice the requirements determination functionality in AIMS is used for some, but not all, items of GSI managed by CASG and the core functionality in MILIS is used for the remaining items.

2.89 Defence was not able to advise the ANAO on the substantive rationale behind the use of one application's requirements determination functionality over the other. Defence advised the ANAO in March 2023 that the approach to requirements determination is decided by the System Program Office/Designated Logistics Manager in consultation with their Capability Manager, 'based on factors including stock segmentation, contracting arrangements, Item type and supply arrangements, Product Schedules etc.'

Visibility of Defence's inventory management costs

2.90 Inventory management costs will affect the economy of Defence's management of general stores inventory.

2.91 The *2008 Audit of the Defence Budget* (known as the Pappas Review and released publicly in November 2009) was commissioned by the Australian Government to advise on the efficiency and effectiveness of the Defence budget and how to improve budget management.⁵⁶ The review suggested that Defence could encourage more cost-conscious decision making by increasing the transparency of, and accountability for, administrative and carrying costs associated with inventory.

Finally, we note that while AIMS [Advanced Inventory Management System] estimates the purchasing and storage costs, these are not actually passed on from the Joint Logistics Command (JLC) to the area that orders the stock — the SPO [System Program Office], Joint Logistic Unit (JLU) or individual Service unit. Greater transparency on and accountability for costs would encourage more cost-conscious decision making. This is a situation that will be aided by the budget approach proposed in Chapter 14 because the costs for purchasing and storage will be in the budget of the Group ordering the inventory.⁵⁷

2.92 Defence advised the ANAO that its systems do not provide visibility of the administrative or carrying costs associated with managing its inventory, because no Defence system records these costs to the level of granularity that could usefully inform DLMS' decisions on economic order quantities. Further, Defence advised the ANAO that there is no formal requirement for Defence to monitor or report such costs. In effect, not all relevant inventory management costs are well understood by Defence. This impacts on the ability of accountable logistics managers to make efficient and economical inventory procurement decisions and means that the department is not

55 The policy is CASG Policy (ML) 04-0-002 CASG Materiel Planning and Management. The directive mandating the use of AIMS for requirements determination in CASG was removed from CASG Policy (ML) 4-0-002 CASG Planning and Management version 1.6, which was released in June 2020. The current version of this policy is version 1.7, dated March 2021.

56 The Pappas Review was a far-reaching review of Defence's finances, operations and management. Relevant aspects of the review are further discussed in Appendix 3 of this audit report.

57 ANAO comment: Defence advised the ANAO in March 2023 that 'JLC do not pass on the suggested parameters (purchasing and storage costs) because it is part of the AIMS [Advanced Inventory Management System] system inputs operated by CASG.'

well placed to provide internal assurance on the efficiency and economy of its inventory management arrangements.

2.93 Defence also advised the ANAO that the costs for the management of GSI stock on hand are borne by the majority of Groups and Services, with Joint Capabilities Group and CASG incurring the greatest value of direct external costs.

2.94 The ANAO asked Defence to provide the total cost to Defence of internal and external costs associated with the management of inventory (as a whole) for the last three years. Defence was not able to provide this information.

2.95 Defence has established values for some carrying and administrative costs associated with managing Defence inventory in MILIS. The ANAO's analysis indicates that Defence has assigned different terms and different values to what are ostensibly the same types of costs. Defence advised the ANAO that these are 'notional' values that are only one of the inputs to a DLM's decision-making, and consequently Defence has assessed these as 'low risk'.

2.96 Defence records indicate that some of the values for carrying and administrative costs were established in 1999.⁵⁸ Defence has not updated some of these values in 24 years, despite the *2008 Audit of the Defence Budget* (the Pappas Review) identifying that these values materially underestimated the holding and transaction costs of GSI.

2.97 The Pappas Review estimated that the true annual carrying/holding cost associated with managing inventory was 33 per cent of the stock's value. The ANAO applied this 33 per cent value to calculate present-day costs. Table 2.1 below sets out the ANAO's estimates of costs associated with system-calculated overstocks reported in the 2021–22 CASG annual inventory health check (discussed in paragraphs 3.33 to 3.72) The estimates are based on the values currently used in MILIS (10 per cent) and AIMS (17.5 per cent), and the Pappas Review value (33 per cent).

Table 2.1: Estimated carrying/holding costs associated with management of system-calculated overstocks of GSI as at 30 June 2022

Measure	'Excess' (%)	Estimated annual carrying/holding cost of overstock (based on MILIS value of 10%)	Estimated annual carrying/holding cost of overstock (based on AIMS value of 17.5%)	Estimated annual carrying/holding cost of overstock (based on Pappas Review value of 33%)
Unallocated inventory	62 ^a	\$169m	\$296m	\$559m
Net current excess	65	\$166m	\$290m	\$547m
Stock on hand over supplier lead times	79	\$203m	\$355m	\$670m

Note a: For 'unallocated inventory' the 'excess' inventory value reported in the 2021–22 CASG annual inventory health check was used to calculate the estimated carrying/holding cost. For the 'net current excess' and 'stock on hand over supplier lead times' measures, the percentage of warehouse stock on hand was used to calculate

58 In Auditor-General Report No.5 1997–98 *Performance Management of Defence Inventory*, the ANAO identified that Defence had no measures of inbound freight costs, administrative costs, or inventory carrying cost which would inform trade-off decisions between effectiveness and efficiency.

See: Auditor-General Report No.5 1997–98 *Performance Management of Defence Inventory*.

the estimated 'excess' inventory value based on the value of GSI reported in Defence's 2021–22 financial statements, because Defence does not calculate the value of 'excess' GSI for these measures. This was then used to calculate the estimated carrying/holding cost.

Source: ANAO analysis of Defence documentation based on GSI value in Defence's 2021–22 financial statements.

2.98 The variance in cost estimates resulting from the application of different starting points, illustrated in Table 2.1, highlights the importance of having an accurate starting point. Defence employs system generated calculations of economic order quantities and optimal replenishment quantities based on 'notional' values established decades ago. These values were determined by the *2008 Audit of the Defence Budget* to materially understate costs. Defence should review holding and carrying cost values to ensure they accurately reflect a contemporary evidence-based estimate of these inventory management costs. This would better inform decision-making in relation to inventory management, including GSI, and provide greater visibility of costs associated with the overstocks discussed in paragraphs 3.58 to 3.69 of this audit.

2.99 Defence advised the ANAO in March 2023 that it would review all holding and carrying costs as part of its policy, process and MILIS system transfer to the new Enterprise Resource Planning system (ERP).

Recommendation no. 3

2.100 The Department of Defence review holding and carrying cost values established in its systems supporting inventory management, to ensure that they reflect a contemporary evidence-based estimate of these inventory management costs.

Department of Defence response: *Agreed.*

2.101 *Defence will form a working group to review holding and carrying cost values used in extant inventory management systems.*

Has Defence established operational guidance and training arrangements to support the implementation of the authorising and administrative framework?

Defence has established operational guidance and training arrangements to support the implementation of the authorising and administrative framework. Defence's guidance and training is largely focussed on the use of MILIS by its Designated Logistics Managers (DLMs), rather than the broader range of skills and experience required by the Defence Logistics Policy Manual, and does not focus explicitly on the efficient and economical management of GSI.

Defence has stated that its training arrangements are intended to support the professionalisation of logistics personnel. While training to access MILIS is mandated for DLMs and managed centrally, other relevant training is not. The completion of other training requirements is managed at a local level and Defence is not well placed to provide internal assurance that DLMs have the skills and experience required by the Defence Logistics Policy Manual.

Operational guidance

2.102 As noted in paragraph 2.4, Defence's inventory management policies are supported by operational guidance in the form of procedures documented primarily in the Electronic Supply Chain Manual and CASG procedure documents.

2.103 Operational guidance pertaining to authorising and planning GSI requirements was discussed in paragraphs 2.17 to 2.65. This operational guidance is largely focussed on the use of relevant systems and tools — MILIS, AIMS and IMAT — by the Designated Logistics Manager (DLM).

Training arrangements

2.104 As noted in paragraphs 2.9 to 2.13, the Defence Logistics Policy Manual states that each item of supply in Defence must have a single accountable logistics manager (DLM). The manual also states that a DLM:

must have the skills, experience, authority and accountability to make all logistics-related decisions around the assigned item(s) and to be able to manage associated inputs to achieve the required performance targets within prescribed financial guidance.

Training for Designated Logistics Managers

2.105 Defence advised the ANAO in October 2022 that there are no specific or mandated training arrangements for DLMs. Defence further advised that the following courses are relevant to Designated Logistics Managers.

- MILIS SPO Inventory Controller.
- AIMS Consumables.
- AIMS Repairables.
- Inventory Management Advanced.
- Inventory Measurement & Analysis Tool (IMAT).

2.106 The training and assessment activities for the courses listed at paragraph 2.105 are conducted by Defence Learning Branch. Users can register for Defence Learning Branch courses through Campus, which is Defence's online training portal. Some Defence Learning Branch courses require successful completion of an associated assessment, while others only require attendance.

2.107 Defence records completion of Defence Learning Branch courses. Raw completion data is uploaded to the Personnel Management Key Solution (PMKeyS) against employee records.⁵⁹ Defence advised the ANAO in October 2022 that it is unable to identify the number of Designated Logistics Managers within course completion data, as Defence does not maintain a central register of Designated Logistics Managers.⁶⁰ As a consequence Defence does not have assurance that all

59 PMKeyS is Defence's payroll and personnel management system. Defence advised the ANAO in October 2022 that contractor data is not recorded in PMKeyS.

60 Defence advised the ANAO in October 2022 that ADF, APS and contractor staff all fulfill the Designated Logistics Manager role on behalf of Defence, though it is unable to identify how many contractors are Designated Logistics Managers. Defence also advised the ANAO in October 2022 that the ability to identify the resource assigned to a particular role is expected to be addressed with the implementation of the ERP system, as SAP is Position/Role based.

Designated Logistics Managers have the skills and experience to undertake their role to the appropriate standard.

2.108 Defence advised the ANAO in March 2023 that a DLM is not necessarily a single person and may be an organisation. In the absence of the information discussed in paragraph 2.107, Defence cannot provide assurance that the individuals comprising such a DLM have the skills and experience to undertake their role to the appropriate standard.

2.109 Defence has also introduced a Materiel Logistics Professionalisation Program to provide training to upskill the materiel logistics workforce. The program provides training courses separate to the Defence Logistics Branch courses outlined above.⁶¹ The courses and training arrangements provided under the program are not mandatory and do not amount to a qualification in and of themselves.

2.110 Defence issues several certificates and diplomas relevant to inventory management.⁶² These formal qualifications and the Materiel Logistics Professionalisation Program’s training courses are not prerequisites or requirements for specific roles and activities in Defence inventory management.

Training for systems access

2.111 The Electronic Supply Chain Manual states that:

a 'No Proficiency = No Access' policy applies to obtaining access to MILIS. Before a user is authorised access, they must have completed a formal and relevant MILIS training and assessment package and have the appropriate proficiency(s) recorded on against PMKeyS/Campus.

2.112 Defence guidance for attaining systems access to MILIS, AIMS and IMAT is summarised in Table 2.2 below.

Table 2.2: Inventory systems access for Defence personnel and contractors

System	Defence personnel	Contractors
MILIS	Gaining systems access to MILIS requires users to successfully complete 'training and assessment commensurate with role and access requirements' and submit a completed Application for Access to MILIS to a supervisor. ^a The form is to be reviewed, verified, and approved by a SPO/Designated Logistics Manager supervisor or a District/Unit supervisor, and a Local Site Administrator.	Users must successfully complete 'training and assessment commensurate with access requirements' and submit a completed Application for Contractor Access to MILIS form to the Site Contract Manager. ^a The form is to be reviewed, verified, and approved by a Site Contract Manager, a Defence Contract Manager and a Local Site Administrator.

61 The program’s training courses include Materiel Logistics Introductory Course, Materiel Logistics Practitioner Course, Materiel Logistics Managers Course, Materiel Logistics Refresher Course, Supply Chain Management in Defence, Integrated Logistics Support Overview, Principles of Integrated Logistics Support, and Logistics Support Analysis Foundations.

62 There are three vocational qualifications that underpin the work of materiel logistics staff: Certificate IV in Materiel Logistics, Diploma of Materiel Logistics, and Advanced Diploma of Materiel Logistics. As of September 2022, these qualifications were undergoing national review. The approximated timeframe for completion of this review was December 2022, at which time new arrangements were to be in place. Defence advised the ANAO in March 2023 that while some materiel logistics training courses do align to certain units of competency towards the Certificate IV and Diploma of Materiel Logistics, students would then need to provide workplace evidence and be assessed as competent before the unit of competency could be awarded.

System	Defence personnel	Contractors
AIMS	Requests for access to AIMS will only be processed if the applicant has completed the 'AIMS Consumables' or 'AIMS Repairables' training courses. Users are required to complete and submit the AIMS User Access form, which is reviewed, verified, and approved by a SPO Supervisor or Designated Logistics Manager, a Local Site Administrator, and the AIMS Helpdesk. ^b	
IMAT	Requests for access to IMAT will only be processed if the applicant is either nominated to attend an upcoming relevant IMAT training course, or already holds proficiency in the 'Inventory Measurement & Analysis (IMAT)' course. The applicant must complete and submit an IMAT Access Request Form, which is reviewed, verified, and approved by the applicant's supervisor, a Local Site Administrator, and the AIMS and IMAT Support Personnel. ^c	

Note a: The Electronic Supply Chain Manual does not explicitly state what these training and assessment arrangements are. A copy of course proficiency is required to be attached to the application.

Note b: An applicant must complete the AIMS User Access form by attaching evidence of course proficiency.

Note c: An applicant must complete the Request Form by attaching evidence of IMAT proficiency or nominated upcoming course details to their supervisor.

Source: Defence documentation.

2.113 Access to MILIS, AIMS and IMAT requires successful completion of advanced system-specific training courses. These training courses mostly consider competency in systems functions, tasks, and operations. They do not focus explicitly on the efficient and economical management of GSI.

2.114 Access to advanced courses is dependent on successful completion of pre-requisite courses, including 'MILIS Introduction', which is a prerequisite course for relevant training courses.⁶³

2.115 Defence has also established guidance on reviewing the currency of an individual's proficiency, for continued systems access eligibility. There is no requirement for courses to be recompleted to maintain systems access.

Accountability for inventory training arrangements

2.116 The Executive Director Materiel Logistics Function is the central point of accountability for the training of logistics managers. Defence advised the ANAO in October 2022 that the Executive Director Materiel Logistics Function gains assurance that training is being completed through: the maintenance of an intranet page for materiel logistics training; and the 'No Proficiency = No Access' policies established in the Electronic Supply Chain Manual (discussed in paragraph 2.111).⁶⁴

2.117 Defence further advised the ANAO in November 2022 of other arrangements in place to provide assurance over the completion of training, which consist of:

Performance exchanges with Managers twice annually, and via recruitment activities for new employees. In that case, the panel would assess skills and experience demonstrated in applications, resumes and interviews that candidates have the required skills set prior to on boarding. If the DLM [Designated Logistics Manager] is a contractor, the skillsets would be detailed in the relevant contract.

63 Defence provided the ANAO with course completion data which indicated that 2,101 completions of the MILIS Introduction training course had been recorded in PMKeyS as at December 2022.

64 Authorising MILIS user access is the responsibility of the Enterprise Technology Operations Branch in Chief Information Officer Group, which has established the process of limiting MILIS access to personnel with: a minimum Defence security clearance of Baseline; a Need-to-Know in relation to MILIS Information; and the relevant proficiency commensurate with their role and access requirements.

2.118 Defence does not mandate inventory management training, except for training required to access its systems. Access to MILIS, AIMS and IMAT requires successful completion of advanced system-specific training courses. These training courses mostly consider competency in systems functions, tasks and operations, rather than the broader range of skills and experience required by the Defence Logistics Policy Manual (see paragraph 2.104), and they do not focus explicitly on the efficient and economical management of GSI. Training needs and the completion of available courses is managed at the local level, and Defence is not well placed to provide internal assurance that people undertaking a Designated Logistics Manager (DLM) function have the skills and experience to undertake their role to the appropriate standard. There is an opportunity for improvement for Defence to consider how to provide such assurance.

Opportunity for improvement

2.119 Defence consider how to provide internal assurance that people undertaking a Designated Logistics Manager function have the skills and experience to undertake their role to the appropriate standard.

3. Framework implementation

Areas examined

This chapter examines whether the Department of Defence (Defence) can demonstrate that it has implemented its framework for the efficient and economical management of general stores inventory (GSI).

Conclusion

Defence is not able to demonstrate that it has fully implemented its framework requirements regarding cost-effective and efficient inventory management, and a 'balanced inventory' that avoids both understocking and overstocking. Defence was also unable to demonstrate, until late in this audit, an active focus or response by Defence senior leaders on known issues contributing to inefficiency and overstocking in the management of general stores inventory.

Recommendations

The ANAO made one recommendation aimed at ensuring that Defence develops a senior management response to known issues contributing to inefficiency and overstocking in the management of GSI.

The ANAO also identified an opportunity for improvement by providing annual inventory health check reports to relevant Defence senior leaders, as a matter of course.

3.1 Fit for purpose governance, monitoring and reporting arrangements enable Defence to demonstrate implementation of its framework for the management of GSI. Fit for purpose arrangements can be expected to: focus on the proper use of resources, including the achievement of efficiency and economy; and be commensurate with the scale, scope, and risk of the activity.

3.2 As at 30 June 2022, Defence was managing GSI comprising more than 70 million items of various stocks valued at \$2.6 billion across 547 geographically dispersed locations. In this context, fit for purpose arrangements can be expected to include:

- specific governance and organisational arrangements geared to providing senior leadership oversight of the activity, including at the enterprise level;
- monitoring and reporting processes geared to support the oversight arrangements; and
- a program of review and evaluation activity.

Has Defence established governance, monitoring and reporting arrangements to provide assurance that the framework has been implemented?

Defence has established governance, monitoring, reporting and evaluation arrangements for its GSI. These arrangements generate relevant management information for Defence's operational managers and senior leaders with oversight responsibilities, including in respect to overstocks of GSI.

The information available from these arrangements indicates that Defence is only partly effective in its implementation of the documented framework for cost-effective and efficient inventory management, which includes the goal of a 'balanced inventory' that avoids both understocking and overstocking. Since their introduction in 2015–16, annual Capability Acquisition and Sustainment Group (CASG) inventory health checks have repeatedly drawn attention to an inadequate focus on efficiency and resultant overstocking of Defence warehouses. They have further highlighted that overstocking is indicative of unnecessary overspending.

Governance and organisational arrangements for the management of general stores inventory

3.3 Defence has established governance arrangements for logistics at the enterprise level. The Defence Logistics Council (DLC), formerly known as the Defence Logistics Committee, is a whole-of-Defence committee whose role it is to assist Commander Joint Logistics (CJLOG, Australian Defence Force, ADF, two-star position) as the Defence Strategic J4.⁶⁵ The DLC is chaired by CJLOG and meets quarterly. Members of the committee represent Joint Capabilities Group, CASG, Navy, Army, Air Force, Joint Operations Command, Defence People Group, and Chief Information Officer Group. The DLC is supported by six boards, each with associated supporting working groups.⁶⁶

3.4 In addition to the six boards referred to in the terms of reference for the DLC, a Defence Logistics Document Suite Working Group has been established. The working group is to support Defence Logistics Document Suite Reform activities and reports directly to the DLC (see footnote 48). The working group is to meet monthly and is chaired by the Director Defence Logistics Strategy and Training. Its functions include: confirming and de-conflicting change proposals across the

65 CJLOG is responsible to the Chief of Joint Capabilities in their role as the accountable officer for joint logistics in Defence. The ADF uses the common joint staff system that has been adapted from the North Atlantic Treaty Organization (NATO) staff system. The common joint staff system is numbered: J0—command group, J1—personnel, J2—intelligence, J3—operations, J4—logistics, J5—plans, J6—cyberspace, J7—training, J8—resources and finance and J9—civil-military cooperation. The Defence Logistics Policy Manual states that the Defence Strategic J4 is the senior military officer accountable to the Chief of the Defence Force (CDF), through the Vice Chief of the Defence Force (VCDF), for the oversight and assurance of the Defence Logistic Capability. The Defence Logistics Policy Manual identifies CJLOG as the Defence Strategic J4. This has not been the case since 2020 when the Chief of Services Committee agreed to appoint Chief of Joint Capabilities (ADF three-star position) as the senior accountable officer for logistics in Defence. While the Defence Administrative Policy reflects this, Defence has not updated the Defence Logistics Policy Manual to reflect the 2020 decision of the Chief of Services Committee and to align it with Defence Administrative Policy.

66 The six boards are the: Defence Logistics Assurance Board; Defence Logistics Education and Training Board; Defence Logistics Systems Capability Board; Defence Fuel Board; Defence Explosive Ordnance Board; and Defence Logistics Steering Board.

Defence Logistics Document Suite; ensuring compliance with the Defence Logistics Document Framework; and recommending changes to the Defence Logistics Authority Delegate (CJLOG).

3.5 The ANAO’s review of the minutes of DLC meetings held between September 2020 and May 2022 indicated that there had been no specific consideration of the management of GSI or GSI related matters. The minutes therefore did not provide specific insights into how GSI had been governed or oversighted at an enterprise level. The minutes documented discussion of matters including Defence’s Enterprise Resource Planning program, logistics training, and ‘lack of currency’ in Defence’s logistics policies and procedures and its impact on logistics management in Defence.

3.6 CASG has also established governance arrangements for the management of logistics within the group. Table 3.1 outlines these arrangements.

Table 3.1: CASG logistics management governance arrangements

Governance body and frequency of meetings	Function
<p>Materiel Logistics Management Group — quarterly</p>	<p>Chaired by the Executive Director Materiel Logistics (Executive Level 2.1)^a, the Materiel Logistics Management Group’s functions include: providing advice and recommendations to the Executive Director Materiel Logistics Function on materiel logistics function and domain priorities; providing stewardship to the CASG Materiel Logistics environment, job family and community; driving reform initiatives and continuous improvement; providing a communication pathway across CASG for setting and agreeing Materiel Logistics strategic direction; providing a network to assist in identifying and developing best practice; providing a forum for relationship management with key stakeholders; and driving implementation of the Functional Network.^b The group has the authority to endorse: logistics policy for CASG for issue by the Executive Director Materiel Logistics Function; Materiel Logistics job family related decisions; Materiel Logistics learning and development decisions; and activities with impact on the Materiel Logistics workforce.</p>
<p>Product Support Management Working Group — quarterly</p>	<p>Chaired by the Deputy Director Product Support Planning^c, the Product Support Management Working Group’s role includes: establishing, promoting and moderating a Product Support Management culture within the Defence Logistics Enterprise; deriving and promoting a range of Product Support Management offerings; deriving and promoting a suite of Product Support Management policy and process; and identifying the Product Support Management workforce learning and development needs. The group is required to submit action logs post-meeting and report significant proposals or matters under consideration to the Materiel Logistics Management Group.</p> <p>Defence advised the ANAO that in May 2020 the following additional functions were taken on by the Product Support Management Working Group, although the Terms of Reference had not been updated to reflect these additional functions: establish and promote a Support Chain and Inventory Management culture within the Materiel Logistics Centre of Expertise, other Centres of Expertise^d, Services and Groups; act as Materiel Logistic Support Chain and Inventory Management Subject Matter Experts within their field of expertise; derive and promote a range of Materiel Logistics Support Chain and Inventory Management service offerings; derive and promote a Materiel Logistics Support Chain and Inventory Management code of practice; and identify the Support Chain and Inventory Management workforce learning and development needs.</p>

Governance body and frequency of meetings	Function
Logistics Support Analysis Working Group	Chaired by the Logistics Support Analysis Functional Authority and co-chaired by the Preparedness and Life Cycle Modelling Functional Authority. The group's role is to: support the Integrated Product Support Nominated Standards Authority ^e , through maintenance of current systems for the conduct of Logistics Support Analysis and Preparedness and Lifecycle Modelling; and investigate alternate standards, tools and process for potential adoption by Defence.
Domain Functional Leads Working Group — monthly between Materiel Logistics Management Group Meetings	The Domain Functional Leads Working Group, chaired by the Director Materiel Logistics Services (Executive Level 2) ^f provides a forum for Domain Functional Leads to discuss cross domain materiel logistics issues; identify common areas of interest to benefit from lessons learned; develop solutions to identified issues; prepare business cases for agreed activities with and across domains; and support resolution of matters raised at the Materiel Logistics Management Group. ^g The group has no decision-making authority, but may agree to proposals for consideration by the Materiel Logistics Management Group, to which it reports.

Note a: Membership in addition to the chair comprises Directors (Executive Level 2 positions) within CASG: Director Materiel Logistics Services, Director Integrated Product Support, Domain Functional Lead Maritime Domain, Domain Functional Lead Land Domain, Domain Functional Lead Air Domain, Domain Functional Lead Joint Systems Domain, and Director Joint Logistics Futures. The Materiel Logistics Management Group's purpose is to guide development and modernisation of materiel logistics policy and practice, apply compliance and assurance arrangements, and professionalisation and skilling of the Materiel Logistics workforce.

Note b: Defence advised the ANAO in March 2023 that 'The functional network consists of identifying competent, knowledgeable experienced Materiel Logistics members (including inventory managers) to assist other ML [materiel logistics] personnel.' The members in addition to the chair include CASG Domain representatives, Capability Manager representatives, and a Joint Logistics Command (JLC) representative.

Note c: The members in addition to the chair and co-chair include CASG Domain Functional Lead representatives; Service Director of Logistics representatives; a JLC representative; the Chair of the Integrated Product Support Working Group; and other Materiel Logistic Function Functional Authorities.

Note d: Centres of Expertise in CASG were replaced with functions in 2017. See footnote 69 below.

Note e: The Executive Director Materiel Logistics Function is the Integrated Product Support Nominated Standards Authority. The Integrated Product Support Nominated Standards Authority role's purpose is to manage the Defence Integrated Product Support suite of Standards, facilitate the adoption of the Integrated Product Support Council's suite of Integrated Product Support Specifications, and systematically transition integrated logistics support in Defence to integrated product support.

Note f: CASG's AIMS bi-annual business reporting procedure sets out that 'The Director Materiel Logistics Services is responsible for monitoring to ensure that CASG Domains comply with the Inventory Planning and Management policy and procedures.'

Note g: The members in addition to the chair are the Domain Functional Leads for Maritime Domain, Submarines, Land Domain, Air Domain and Joint Systems Domain.

Source: Defence documentation.

Inventory monitoring and reporting arrangements

3.7 Defence has developed a framework for monitoring the implementation of its inventory planning and management policy and procedures. Defence's inventory performance reporting framework is set out in:

- Defence's Electronic Supply Chain Manual;
- CASG Procedure (ML) 04-2-002 Advanced Inventory Management System Monthly Business Reporting, Version 2.3, 2018; and

- CASG Procedure (ML) 04-2-004 Advanced Inventory Management System Bi-annual Business Reporting, Version 1.2, 2018.

3.8 Defence's Electronic Supply Chain Manual states that:

Establishing an Inventory Performance Management framework and measuring performance is recognised as an important element for ensuring that a supply chain functions in the most cost effective and efficient manner. Performance information by itself does not provide the reason why things appear wrong, rather it raises a flag requiring further investigation.

...

An effective Performance Management Framework (PMF) has a disciplined 'battle rhythm' based on weekly and monthly performance reviews at different levels within the organisation.

3.9 CASG Procedure (ML) 04-2-004 Advanced Inventory Management System Bi-Annual Business Reporting, states that:

The successful implementation and management of the Inventory Optimisation Initiative is predicated on a structured discipline of monitoring, remediating and reporting against targeted outcomes. The Director Materiel Logistics Services is responsible for monitoring to ensure that CASG [Capability Acquisition and Sustainment Group] Domains comply with the Inventory Planning and Management policy and procedures. This is achieved through the respective Domain Headquarters and a two tranche business reporting process; the first of which is covered by monthly reporting as detailed by the CASG Procedure (ML [Materiel Logistics]) at reference C. The second tranche for Bi-Annual reporting requirements are detailed in this CASG Procedure.

3.10 CASG has developed procedures that require monthly business reports and bi-annual reports to be generated in Defence's Inventory Measurement and Analysis Tool (IMAT), as well as manual compilation of reports. The required reports are to be generated using 12 Inventory Key Performance Indicators (KPIs) for which Defence has developed standard performance reports within IMAT.⁶⁷ These key performance indicators were outcomes of the Balanced Inventory Project discussed in Box 3 and Appendix 3 of this audit report.

Weekly and monthly business reporting on inventory performance

3.11 Defence's expectation, as stated in its Electronic Supply Chain Manual, is that weekly and monthly performance review meetings should be held to review inventory management performance, and that these meetings should be informed by Defence's standard IMAT KPI reports. While stating that there is no mandated list of reports for monitoring KPIs, Defence's Electronic Supply Chain Manual identifies the ten standard KPI reports which should be reviewed as part of a monthly review of inventory performance and the three that should be reviewed as part of a weekly review of inventory performance. CASG's procedure for Advanced Inventory Management System (AIMS) monthly business reporting incorporates ten of these 13 reports.⁶⁸ Of the ten KPIs: five measure effectiveness only; three measure effectiveness, efficiency and economy; and two measure efficiency and economy.

67 Defence has developed an additional standard report in IMAT for supporting a report for demand satisfaction rate, outlining reasons for failure to meet this KPI. Two KPIs are customer (Capability Manager) focused and ten are process focused.

68 Items that do not have an inventory segmentation code of AC or AR are still visible in AIMS but are considered 'AIMS Monitored'. For these items AIMS provides performance reporting and analysis capabilities.

3.12 The standard IMAT KPI reports which contain efficiency and/or economy measures are included in CASG's monthly reporting procedure. While the procedure incorporates standard reports that have regard to efficiency and economy, Defence could not provide evidence to the ANAO that the reports required by the monthly reporting procedure were being generated. While the procedure states that the Materiel Logistics Centre of Expertise is responsible for monitoring CASG compliance with the Inventory Planning and Management Policy and procedures, Defence advised the ANAO that it did not monitor compliance with these reporting requirements.⁶⁹

3.13 CASG's procedure for AIMS monthly business reporting also states that each System Program Office (SPO) is responsible for compiling a monthly Inventory Health Check Report (SPO monthly health check). This report is a manual compilation of the ten monthly IMAT KPI reports and one additional KPI within a standard template.⁷⁰ The SPO monthly health check report is compiled by running each of the Key Health Indicator reports, exporting the results into a SPO inventory health check report template, and completing user entry fields for each indicator.⁷¹ The user entry fields provide for further context and identify remediation strategies for underperforming indicators. The report template also provides for the 'Domain representative' to add Division level information to the report.⁷²

3.14 Defence advised the ANAO in March 2023 that:

As CASG MLF [the Materiel Logistics Function] is aware minimal SAP ERP [the forthcoming Enterprise Resource Planning system] reporting will be available on go live. CASG MLF are positioning to establish a single source Supply Chain Management database that is complimented with power BI [a business intelligence and analysis tool] to enable inventory reporting, to meet the assurance on efficient and economical management of GSI.

3.15 Defence further advised the ANAO that the validation of business requirements and key performance indicators was underway with its Domains, for a new system to replace Defence's Inventory Measurement and Analysis Tool by 1 July 2023. Defence records indicate that Defence plans to replace IMAT with an interim 'Inventory Analytics Reporting' solution in July 2023, with a provision for obsolescence reporting capability to be available to users as a proof of concept in April 2023 and progressive rollout of new dashboards and reports between July and December 2023. Defence advised the ANAO in May 2023 that it would undertake business case requirements planning under the One Defence Data project in May/June 2023 to support transitioning the

69 Defence advised the ANAO in March 2023 that a Materiel Logistics Function superseded the Materiel Logistics Centre of Expertise, with the introduction of the 'CASG Balanced Matrix' from 2017. The CASG Balanced Matrix transitioned CASG into a structure made up of Domains and Functions.

70 The ten KPIs outlined in the electronic supply chain manual as standard monthly IMAT reports and the additional KPI are called 'key health indicators' (KHIs) in the context of CASG's AIMS monthly business reporting procedure.

71 The user entry fields are symptom (what is wrong or right with the report); possible cause (factors that could/have impacted the report); and SPO comments (remediation strategies being implemented to recover any failed or failing KHIs, including anticipated timelines).

72 Defence advised the ANAO in March 2023 that 'Domain representative' in the report template refers to the Domain Functional Leads.

Inventory Analytics Reporting solution to the One Defence Data platform.⁷³ Defence further advised that provision for obsolescence reports were scheduled for release on 1 July 2023.

Bi-annual business reporting on inventory performance

3.16 CASG's procedure for the AIMS bi-annual business review and reporting process provides a set of annual and mid-year activities intended to 'ensure that "inventory optimisation" is managed consistently and results can be efficiently communicated and leveraged across CASG Domains'. CASG's procedure requires inventory performance information produced for annual and mid-year performance reviews to be compiled into an AIMS bi-annual business report. These are to be provided to the CASG Domain Headquarters and SPO Directors and are intended to reflect Domain inventory health by SPO for the current financial year.⁷⁴

3.17 Defence advised the ANAO in November 2022 that the AIMS Business Reports had not been prepared for the last two financial years. Defence was not able to provide evidence that reports required by the AIMS bi-annual business review and reporting process had previously been generated. Defence further advised the ANAO in March 2023 that the monthly and bi-annual reporting procedures were currently under review and on schedule for a 2023 release. Defence was not able to provide the ANAO with evidence of the decision to depart from reporting and record keeping requirements.

Annual review and evaluation — CASG annual inventory health checks

3.18 Defence commenced an annual CASG Inventory Health Check process in 2015–16. The purpose of this program is to:

deliver annual business insights to enable Domains to plan and improve productivity within their associated risk profiles. The intent is to provide visibility around both effective and efficient business outcomes pertaining to each Domain's Logistics Service Delivery Model.

3.19 The annual health checks are undertaken by the Materiel Logistics Function in CASG for each CASG domain. The health checks pertain to GSI items, which are identified in the Military Integrated Logistics Information System (MILIS) by the Stock Type codes 'X' and 'A' (see Table 1.1). GSI items within the scope of the annual health check include both:

73 Defence advised the ANAO in May 2023 that:

Tranche 1 of ICT2284 One Defence Data is delivering foundational data management and analytics capabilities, which support key Defence Data Strategy 2021-23 initiatives. This includes an enterprise Data Platform for PROTECTED and SECRET environments, comprising tools and services for data integration, data storage, data cataloguing and mastering, data analytics, and strategic decision support.

...

In relation to servicing the Inventory Analytics Reporting (IAR) requirements, ICT2284 Program Tranche 1 will deliver a suite of Logistic Intelligence (Supply Readiness) reporting products. The detailed requirements for this deliverable are currently being developed, and it is scheduled to be delivered by Q1, 2024.

...

Tranche 1 of ICT2284 will deliver the data archiving and Master Data Management functionality required to integrate SAP-based ICT2283 ERP data with broader enterprise data holdings. Tranche 1 will archive legacy data to enable trend analysis of historical datasets, and support the decommissioning of legacy systems [emphasis in original].

74 Domain inventory health is not defined in any Defence document.

- ‘inventory included’ (known as II) items — which are logistically and financially managed in MILIS; and
- ‘inventory excluded’ (known as IE) items — which are logistically managed in MILIS but financially managed in other systems.

3.20 The annual health check reports include: a covering brief with a CASG summary assessment; summaries of domain health check findings for the financial year, which outline strengths, weaknesses, opportunities, and risks in each domain; and recommendations. Defence advised the ANAO that recommendations are advisory in nature, and confirmed in March 2023 that there was no documented procedure for compiling the health checks. Defence advised the ANAO in May 2023 that ‘Defence continues to review the veracity of the Annual Inventory Health Checks. Further measures will be developed as the process matures and further data is collected and analysed.’

3.21 The annual health check is distributed to the Domain Functional Leads (Executive Level 2) in each CASG domain. Consistent with the advisory nature of the recommendations, no action is required of the Domain Functional Leads in response to the health check findings. Prior to the First Principles Review a substantially similar quarterly report was provided to the Senior Executive Service Band 3 responsible for sustainment in the Defence Materiel Organisation in the context of the Balance Inventory Project (see Box 3 above).

3.22 Defence advised the ANAO that the monthly and annual CASG health check reports are also made available for ‘fleet screenings’ involving representatives of the Capability Managers, CASG and other Defence groups.⁷⁵ Defence was not able to provide evidence that health checks are used as an input to fleet screenings.

3.23 In November 2018, the 2017–18 annual inventory health check was also distributed to senior Defence leaders at the two-star/SES Band 2 level (including CJLOG, Head Land Systems, Head Maritime Systems, Head Aerospace Systems Division, First Assistant Secretary Helicopter Systems and First Assistant Secretary Joint Systems) and at the one-star/SES Band 1 level (the Directors-General Logistics for Navy, Army and Air Force). Defence advised the ANAO that the annual health check was distributed to these Defence leaders in the context of specific inventory reform activity but was unable to advise or provide evidence as to the specifics of the activity.

3.24 There would be benefit in Defence ensuring that the annual inventory health checks are provided to relevant Defence senior leaders as a matter of course, to help improve Defence’s understanding, oversight and management of issues identified in the health checks.

Opportunity for improvement

3.25 Providing annual inventory health checks to relevant Defence senior leaders, as a matter of course, would help improve Defence’s understanding, oversight and management of issues identified in the health checks.

⁷⁵ Navy, Army and Air Force policy requires six-monthly reviews of Materiel Sustainment Agreements (MSAs), known within Defence as ‘Fleet Screenings’. The term was originally used by Navy. Army refers to the reviews as ‘Sustainment Financial Screens’, and Air Force calls its reviews ‘Sustainment Assessment Reviews’. These are meetings typically involving representatives of the Capability Managers, CASG and other Defence Groups such as Joint Capabilities Group. While ‘Fleet Screening’ procedures vary among the military Services, the intent is broadly similar: to review the funding allocated to sustainment through the MSAs, and make decisions about changes to funding levels, equipment operation, or performance indicators. Fleet Screenings comprise a meeting or series of meetings between the Services and CASG.

Efficiency and effectiveness — annual inventory health check findings

3.26 CASG's annual inventory health checks state that purchases are reviewed to check for evidence of a 'spend to budget' approach. Defence advised the ANAO in November 2022 that:

The methodology used to determine this observation was a comparison of the number of purchase orders raised in the last quarter compared with previous quarters, as well as a comparison of overall stock on hand value as a trend from the previous year. Spikes in holdings or purchase orders would be the typical indicator that above normal purchasing activity had occurred.

3.27 The annual health checks have repeatedly drawn attention to an inadequate focus on efficiency in Defence's inventory management, which is considered to have resulted in overspending and overstocking. The covering brief for the 2015–16 annual health check stated that:

The overall performance of CASG Divisions demonstrated inadequate levels of 'efficiencies' required to deliver Value for Money services to Defence. These results have been consistent over a number of years which suggests inadequate focus on balancing efficiencies, whilst maintaining effective service delivery.⁷⁶

3.28 The covering brief for the 2017–18 annual health check stated that:

CASG continues to provide a consistently high level of 'effective' logistics services to its customers. In contrast, since records began in FY13/14, Logistics 'efficiencies' have recorded poorly which suggest effectiveness was achieved at the expense of the associated efficiencies. Furthermore, these poor efficiencies were attributing to a progressively declining state of the Defence supply chain, evident by the level of needless overspend leading to the excessive overstocking of Defence warehouses.

3.29 The priority placed on effectiveness over efficiency was reflected in internal advice provided to CJLOG in 2016, in the context of a Supply Chain Stockholding Review (discussed further in Appendix 3):

Procurement and stocking considerations have been determined by demand satisfaction rates and customer wait time. This drives a spend-to-budget culture and makes overstocking an accepted fleet management norm.

3.30 The priority placed on effectiveness over efficiency was also a theme in discussions between Defence officials and the ANAO during this audit. Defence officials emphasised, on a number of occasions, that while individual procurements require consideration of efficiency, the key focus in inventory management is the need to 'meet the mission' and effectiveness. Effectiveness was interpreted as people getting things when and where they want them, when they request them.

3.31 From 2019–20 onwards, covering briefs for the annual inventory health checks have included a summary of CASG's logistics performance for the financial year in terms of efficiency and effectiveness. The covering briefs and health checks do not address economy. These efficiency summaries report that behavioural change, driven by increased monitoring, has driven improvement in the efficiency of Defence's management of GSI.⁷⁷ Defence has attributed this to opportunities and recommendations identified in the health checks. The reported improvement in efficiency has been quantified by reduction in stock on hand and 'excess' stock by quantity, rather

76 The 2015–16 health check recommended that CASG expand its focus into improving inventory efficiencies.

77 The behavioural changes noted in the reports have included: increased disposal activity, reduced procurement rates, and the reduction of unallocated inventory considered excess to requirements.

than the ratio of ‘excess’ stock to remaining stock on hand (see paragraphs 3.32 to 3.53 and 3.58 to 3.69). Efficiency summaries have not examined trends in the value of excess stock.

Excess and overstocked inventory — annual inventory health check findings

3.32 As discussed in paragraph 2.58, Defence’s Electronic Supply Chain Manual states that ‘one goal of inventory management is to establish and maintain a balanced inventory’. It describes a balanced inventory as one where ‘appropriate levels of held stock satisfy an acceptable proportion of customer demands, within cost constraints.’ It further states that:

An understocked inventory will result in poor customer satisfaction, whereas an overstocked inventory is indicative of poor funds utilisation.

3.33 The CASG inventory health checks do not include measures of ‘balanced’ or ‘understocked’ inventory, to help assess the achievement of the goals set out in the manual. The health checks include three main measures of ‘excess’ or ‘overstocked’ inventory. The measures are:

- unallocated inventory;
- net current excess versus remaining stock on hand; and
- stock on hand over supplier lead times.

Unallocated inventory

3.34 One measure of ‘excess’ or ‘overstocked’ inventory included in the annual CASG inventory health checks is ‘unallocated inventory’. Defence advised the ANAO in November 2022 that ‘unallocated inventory’ is the sum of ‘Non PFO [provision for obsolescence] Excess’ and ‘PFO Net Excess’. The purpose of the unallocated inventory category is ‘to identify inventory that remains unallocated, that is, the items that cannot be identified against a Defence need or activity’.

3.35 The CASG inventory health checks include provision for obsolescence (PFO) reports, which set out the value and volume of stock on hand categorised as ‘PFO Net Excess’⁷⁸ and ‘Non PFO Net Excess’.⁷⁹ The covering brief for the 2018–19 annual health check advised that:

CASG MLF [Materiel Logistics Function] has employed Provision for Obsolescence (PFO) Reports into their Inventory Health Checks in order to measure the cost efficiency of the supply chain holistically. This also aids in the alignment of Defence’s logistics and financial reporting.

3.36 The covering brief for the 2020–21 annual health check identified unallocated inventory as a key risk, as follows:

The key focal concern when analysing the Defence Supply Chain is the significant level of inventory held that remains unallocated, i.e. the items cannot be identified against a Defence need or activity. Of the total inventory value (\$2.59b) there is \$1.59b of inventory (61.39% of total value)

78 These are items where it is ‘highly’ unlikely they will ever be used and are considered excess to requirements. An item is defined as PFO Net Excess if the following conditions are met: it is Inactive with no adjusted forecast, i.e. there is no future usage programmed into the AIMS forecast; it is not Life Of Type; the item is older than 36 months; and the item has Gross Excess held across the network above the Reserve Stock, Adjusted Safety Stock, Order Quantity, and redistributable items.

79 For these items, the same conditions apply as for PFO Net Excess items, except that the items are either active or inactive but with an adjusted forecast, i.e. there is a programmed usage in the future. These items are considered excess to requirements where Reserve Stock Quantities have been calculated and annotated within AIMS. Where Reserve Stock has not been utilised in AIMS, this category is considered potentially excess to requirements with a caveat for Operational Viability Resource considerations.

which has no allocation / reason for stocking and is currently listed as excess and/or potential excess. The underlying risk is that Defence cannot identify what element of this unallocated inventory may be required as Operational Viability Resources (OVR) or to supplement Raise Train Sustain (RTS) efforts. Excessive overstocking of most Defence inventory is not a viable planning and management solution to meet Directed Level of Capability (DLOC). It is more likely that the effects of Parkinson's Law have historically been driving the overstocking coupled with poor Support Contracts that primarily focus on effective services. Therefore, Industry is rewarded for oversupply to offset their risks against performance metrics whilst reaping increased revenue.⁸⁰

3.37 These risks had been discussed in the covering brief for the first (2015–16) annual health check, which advised that:

The key threat to CASG concerning the Inventory health check pertains to the manner in which overstocks is currently determined. The ratio of 'overstocks & potential overstocks' to 'total stock on hand' is significantly high when benchmarked against Industry Standards, however the key delineating factor is not addressed — Operational Viability Resources (OVR). It has been identified that the vast majority of SPOs [System Program Offices] do not calculate and/or model their OVRs to meet Defence Preparedness requirements. As a result any stock optimisation program is at risk of disposing operational resources.

3.38 In a similar vein, the covering brief for the 2018–19 annual health check concluded that:

analysis of the Non PFO Net Excess Category demonstrates that a significant portion of the stock being reported cannot be reasonably attributed to OVR [operational viability resources] and RSQ [reserve stock quantity] requirements. None the less there is a portion that does and this should be identified through available mechanisms within AIMS and MILIS.

3.39 The covering brief for the 2018–19 annual health check recommended: further analysis of Defence overstock holdings; changes to relevant ICT systems to measure, monitor and report on overstocks; and a review of Defence practices. The recommendations were as follows.

- a. Further risk analysis be undertaken to identify what overstocks are held organically versus JLU's [Joint Logistics Units] and other third party warehouses where the stated overstock exceeds the three YTC [years to consume] threshold.
- b. That OVR [operational viability resources] and RSQ [reserve stock quantity] values be modelled and entered into AIMS [Advanced Inventory Management System] and MILIS [Military Integrated Logistics Information System] in order to measure, monitor and report Defences Inventory Readiness status and to assist in Defence's inventory optimisation initiative.
- c. That SAP ERP is configured to support OVR and RSQ readiness planning requirements.
- d. That the Logistic Service Delivery Model for Class 2 General Stores and Class 9 Repair Parts be reviewed around key commodities with the aim of implementing a more proficient supply &

80 ANAO comment: Defence advised the ANAO in March 2023 that the reference to 'Parkinson's Law' was a generalisation 'to explain *'the demand upon a resource tends to expand to match the supply of the resource'* (aka time management) [emphasis in original].'

For a discussion of the adage articulated by Cyril Northcote Parkinson in 1955 and the corollaries and generalisations flowing from it, see 'Parkinson's law', *Wikipedia*, [Internet] available from https://en.wikipedia.org/wiki/Parkinson%27s_law [accessed 5 February 2023].

Defence further advised the ANAO that the term Operational Viability Resources (OVR) is not included in the Australian Defence Glossary. Defence also advised that Reserve Stock Quantity (RSQ) is required to enable Defence to operate during the Operational Viability Period (OVP), and that 'RSQ is synonymous with the term "Reserve Stock"'. The Defence Glossary defines OVP as 'The period during which a deployed Defence element must be able to sustain itself until the mechanisms of the operation sustainability period are established'.

support system.⁸¹ These considerations should also be relayed to the SAP ERP [Enterprise Resource Planning] Project for possible incorporation.⁸²

Net current excess versus remaining stock on hand

3.40 A second measure of 'excess' or 'overstocked' inventory included in the annual CASG inventory health checks is 'net current excess versus remaining stock on hand'. The health checks state that this measure 'is the most complete report to represent the state of Balanced Inventory'.

3.41 Defence advised the ANAO in March 2023 that it was unable to demonstrate how the measure was calculated due to the subject matter expert retiring from the Australian Public Service. Defence further advised that the measure would be revised as part of a 'rationalisation of Inventory metrics' and potentially retired and/or aligned with 'a common 'Overstock/Excess' definition.'

Stock on hand over supplier lead times

3.42 The third main measure of 'excess' or 'overstocked' inventory included in the annual CASG inventory health checks is 'stock on hand over supplier lead times', which reflects the definitions in Defence's Electronic Supply Chain Manual of 'excess' and 'overstock'.

3.43 In its Electronic Supply Chain Manual, Defence defines excess inventory as the amount by which the projected inventory position evaluation⁸³ exceeds optimal replenishment quantity (ORQ) at the end of 'lead time'. In general terms, lead time is the period between placing an order for an inventory item and receipt of the item. Lead time can therefore affect the amount of inventory that needs to be held.⁸⁴ Where an inventory item is in excess, Defence refers to this as 'overstocked'.

3.44 Successive CASG inventory health checks have identified significant procurement activity, across all Domains, against inactive stock codes and stock codes with no usage history at the global or location level. The health checks have indicated that this has contributed to overstocks and is an indicator of inefficiency. A proportion of this activity has been attributed to inefficient procurement and stock redistribution practices, including holding active stock at locations at which it is inactive.

81 ANAO comment: the covering brief noted that two major contributors to the Non PFO Net Excess were 'Class 2 General Stores' (34 per cent) and 'Class 7 Repair Parts' (55 per cent) and that inventory held beyond ten years reflected 'a legacy maintenance and support philosophy that should be remediated to align with extant support structures and today's Force in Being.' The covering brief defined Class 2 General Stores as 'Clothing, individual equipment, tentage, tool sets and kits, hand tools, stationery and other general administrative and household items' and Class 7 Repair Parts as 'Repair parts and components'. The Class of Supply system is a method developed to group together categories of supply with similar consumption variables for planning purposes.

82 ANAO comment: Defence advised the ANAO in March 2023 that class of supply was not used in any systemic way as part of Defence's management of GSI.

83 ANAO comment: AIMS compares supply and demand over lead time to calculate a projected inventory position for each item in each location. The projected inventory position evaluation is calculated for each week through the next two years. However, it is the position at lead time that is used to determine the inventory balance/position. The projected inventory position evaluation is calculated by adding stock on hand to existing replenishment orders and subtracting unshipped, forecast/future demand, reserve stock quantity and safety stock.

84 Lead time is defined in the Electronic Supply Chain Manual as follows: 'For Parent locations: Total lead time (in weeks) is the total of the 'Purchasing Days' and 'Supplier' lead-time maintained in Ellipse (i.e. MSO165 record). Inventory Control Days is not included in AIMS lead-time calculation. For Child and Grandchild locations, the default lead time is seven (7) weeks.'

3.45 ANAO analysis indicates that as at 7 February 2023, purchase orders against globally inactive stock codes represented 10 per cent of GSI purchase orders by quantity in the preceding 38 months (previous three calendar years and current year to date).

3.46 The 2017–18 health check covering brief attributed 80 per cent of overstocks (stock on hand over supplier lead times) to MILIS and AIMS configuration, due to inappropriate settings forecasting and holding stock at locations where it cannot be reliably forecast.⁸⁵ The brief also noted that the majority of purchase orders and consumption related to GSI was driven by the 11 per cent of stock codes that could be reliably forecast at the global level. To address these findings, the covering brief recommended that a new category be introduced that identifies inventory with low forecast reliability⁸⁶ and that AIMS settings be revised to forecast and hold stock where it can be reliably forecast. Defence advised the ANAO in May 2023 that ‘No recommendations were implemented due to ERP [Enterprise Resource Planning] and in 2020 a change reduction plan for AIMS/IMAT was created to support the Annual Application Sustainment Review process.’

3.47 The Deputy Secretary CASG advised the ANAO in March 2023 that CASG intended to replace forecasting functions currently performed in AIMS with ‘OPUS Suite’ software by the end of 2023.⁸⁷ Defence records indicate that the OPUS Suite is currently in use in the Department on ‘standalone infrastructure’ due to poor performance on the Defence Protected Network. These performance issues identified by Defence will need to be considered as part of the planned replacement of AIMS.

Monitoring GSI overstocks

3.48 Defence has in place guidance and a process for identifying overstocks of general stores inventory. Its arrangements include guidance in the Electronic Supply Chain manual and specific ‘action codes’ in MILIS to identify a variety of overstock scenarios and locations where overstock is occurring.

3.49 The Electronic Supply Chain manual identifies the following circumstances where Defence considers that an item of GSI is overstocked.

- The projected inventory position evaluation (see footnote 83) at end of lead time (discussed in paragraph 3.42) is greater than the optimal replenishment quantity and the surplus limit.⁸⁸ The surplus limit is the maximum stock holding period (in weeks) that, if the projected inventory position evaluation is exceeded at the end of lead time, is considered by Defence to be excessively overstocked. Defence’s default surplus limit is

85 The brief reported that reliable forecasting required six or more issuing events within the historical sample period and as a result less than one per cent of stock codes could be reliably forecast at the item location.

86 The brief noted that this was consistent with activities being introduced by the United States and United Kingdom armed forces.

87 The OPUS Suite software package is owned by Systecon Group and includes the OPUS10 logistics analysis and spare optimisation tool, SIMLOX inventory optimisation modelling tool, and CATLOC cost and revenue life cycle analysis tool.

88 In the Electronic Supply Chain Manual, Defence defines Surplus Limit as ‘the maximum stock holding period (in weeks) that if the Projected Inventory Position Evaluation (PIPE) exceeds at the end of lead time, is excessively overstocked.’

104 weeks (2 years). This stock is identified in MILIS with Action Code 4 — Surplus Limit exceeded.⁸⁹

- The projected inventory position evaluation at the end of lead-time is greater than the optimal replenishment quantity and orders are due within the lead-time. This stock is identified in MILIS with Action Code 5 — Overstocked with Orders.
- The projected inventory position evaluation at the end of lead-time is greater than the optimal replenishment quantity but has not exceeded the Surplus Limit number of weeks of supply. This stock is identified in MILIS with Action Code 6 — Overstocked.

3.50 AIMS allocates these Action Codes to item-locations where overstocked inventory is identified. Defence advised the ANAO in November 2022 that overstocks identified using Action Codes 4, 5 and 6 were reported in the annual CASG inventory health check, aggregated as ‘Stock on Hand over Supplier Lead Times’. Defence further advised the ANAO in March 2023 that:

AIMS has the ability to monitor all GSI in MILIS regardless of the segmentation code and therefore through its time phased replenishment algorithms it can allocate an action code to all monitored GSI.

3.51 Defence also identifies a category of inventory items (identified in MILIS with Action Code 7 — Overstocked due to Life of Type) for which it has determined the quantities held are necessary because one of the following situations applies.

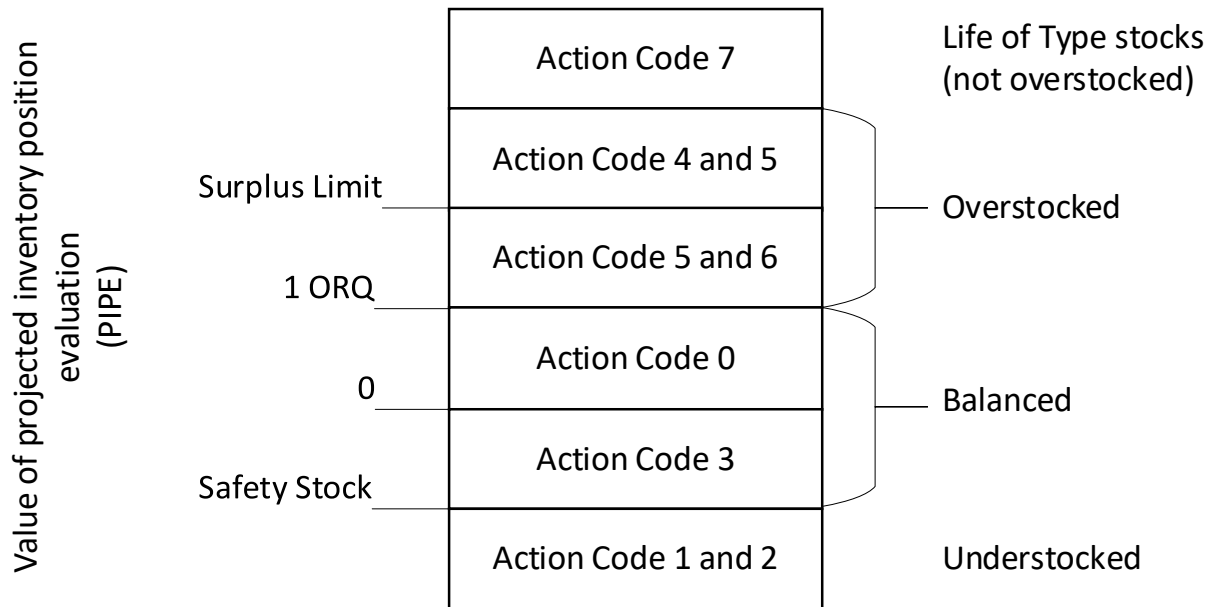
- There is no longer a known source of supply, and this requires a one-time procurement to ensure Defence has enough on hand to fully support a fleet or item until its Life of Type or Planned Withdrawal Date.
- Inventory items are required by Defence to support the initial introduction of a fleet or item into service.
- Defence requires that ‘insurance spares’ or ‘critical items’ be held to cover unforeseen requirements.

3.52 For stock identified in MILIS with Action Code 7 — Overstocked due to Life of Type, Defence does not consider these inventory items as overstocked and they are not managed as such.

3.53 Figure 3.1 below shows the Action Codes that AIMS allocates to item-locations, based on the projected inventory position evaluation calculation, and how these relate to whether stock is considered overstocked, balanced or understocked.

89 At the start of each week AIMS assigns Action Codes to each item/location that is AIMS managed based on the project inventory position evaluation calculation and how these relate to whether stock is overstocked, balanced or understocked (See Figure 3.1).

Figure 3.1: MILIS Action Codes allocated by AIMS to item-locations



Note a: ORQ refers to 'optimal replenishment quantity' (see paragraph 3.42).

Note b: Action Code 0 indicates that the stock on hand at an item-location is balanced and no action is required. Action Code 1 indicates that the item-location is out of stock due to unshipped items exceeding stock on hand. Action Code 2 indicates a projected out of stock at the item-location within lead-time. Action Code 3 indicates that the item-location is balanced but requiring a normal re-order, because demand would consume safety stock at lead-time.

Source: Defence documentation.

For a sample of general stores inventory, can Defence demonstrate that it has implemented its framework?

Data from Defence systems indicates that on every measure examined by the ANAO, Defence's GSI is not 'balanced'. As of 7 February 2023, 79 per cent of general stores inventory warehouse stock on hand represented system-calculated overstock. Historically, this figure has been between 65 and 79 per cent.

The high levels of system-calculated GSI overstocks indicate that CASG's System Program Offices (SPOs) — which are responsible for day-to-day inventory management — continue to not calculate and/or model, or enter in Defence inventory management systems, operational and reserve stock quantities.

Defence's performance against the examined measures, and non-compliance with the documented inventory framework, indicate that Defence is not able to demonstrate that it has fully implemented framework requirements regarding cost-effective and efficient inventory management, and a 'balanced inventory'.

CASG's annual inventory health check findings on the reasons for overstocking and inefficiency in the management of GSI have been reported to operational management and senior leaders since the health checks were introduced in 2015–16. However, there was no indication until late in this audit of an active focus by Defence senior leaders on these known issues, nor an active management response.

3.54 This section reviews Defence's ability to demonstrate implementation of its authorising and planning framework for the management of general stores inventory, to establish and maintain a 'balanced inventory' as discussed in paragraph 2.58.

3.55 Defence's systems, such as the Inventory Measurement and Analysis Tool (IMAT), provide visibility of system-calculated overstocks. The ANAO reviewed Defence's performance against CASG's annual inventory health check measures of excess inventory. The data from these systems indicates that on every measure examined by the ANAO, Defence's GSI is not, and has not in the past, been 'balanced'.

3.56 The ANAO also reviewed data in the IMAT report that is generated to prepare the health checks, to identify overstocked items.

3.57 Defence advised the ANAO in May 2023 that:

Using a 'Just In Time' paradigm, Defence systems use supplier lead time as the primary input to calculating overstocks. As Defence changes posture toward preparedness and mobilisation in response to Defence Strategic Review recommendations, stocking policies and performance indicators will be updated.

Defence's performance against CASG's annual inventory health check measures of excess inventory

Unallocated inventory versus remaining inventory

3.58 The value of unallocated inventory (items that cannot be identified against a Defence need or activity) compared to the remaining inventory, as reported in the annual CASG inventory health checks, is presented in Figure 3.2 below.

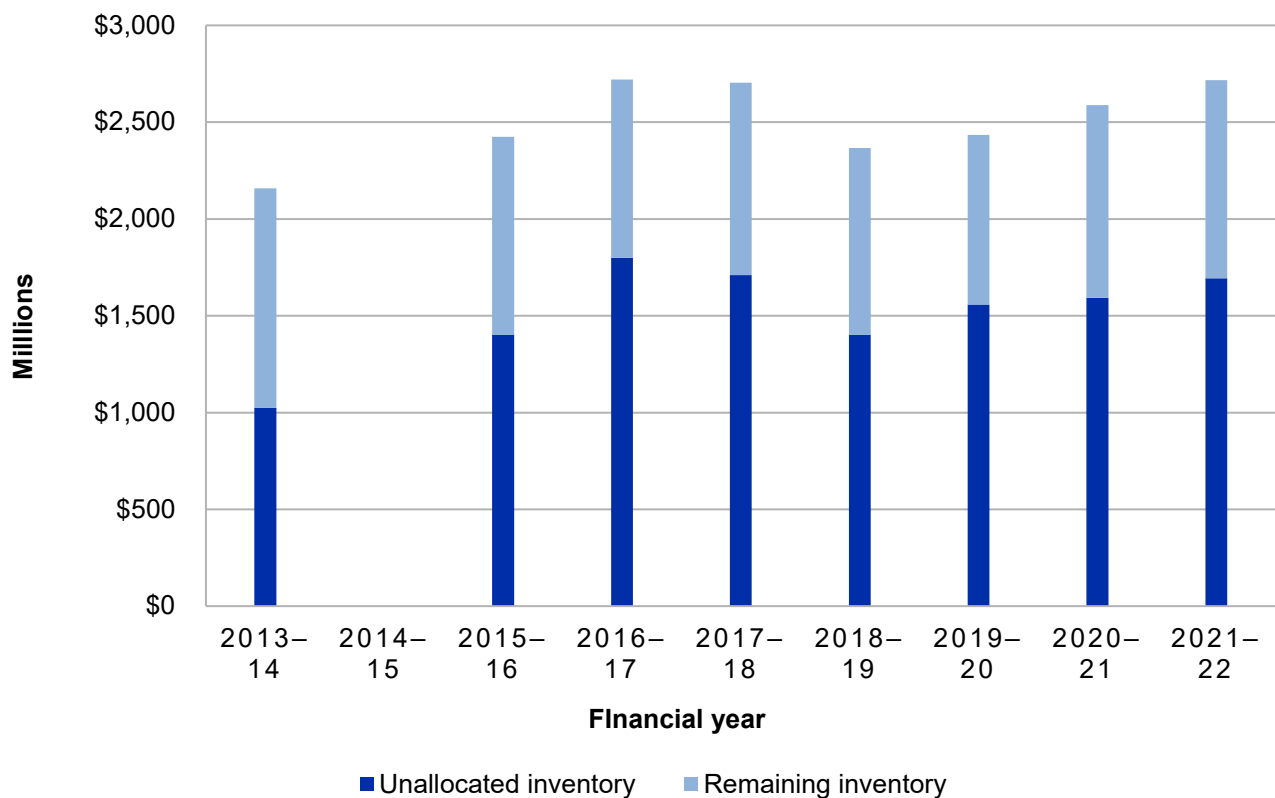
3.59 In summary, in 2021–22 unallocated inventory was valued at \$1.7 billion, or 62 per cent of the total inventory value reported in the health check (\$2.7 billion).⁹⁰ Between 2013–14 and 2021–22 unallocated inventory has represented between 47 and 66 per cent of total inventory by value.

90 Defence advised the ANAO in May 2023 that:

The reported GSI value in the 2021-22 Defence Financial Statements is \$2.5b. The reported value consists of the value of GSI holdings extracted directly from the logistics system (MILIS [Military Integrated Logistics Information System]) and accounting adjustments required to comply with financial reporting purposes.

The total inventory value reported in the health check report represents the CASG Domain in scope inventory prior to accounting adjustments.

Figure 3.2: Value of unallocated inventory versus remaining inventory 2013–14 to 2021–22



Note a: Values reflect the figures reported in the health check for the relevant financial year for all years except 2013–14 and 2016–17. Defence did not retain the whole-of-CASG report for 2016–17. The data for the 2013–14 financial year was drawn from the 2015–16 health check which compared the data for that year to Defence data from 2013–14. For 2016–17, the 2017–18 health check was used. No data was available for 2014–15. ANAO analysis identified that in subsequent years where prior year data was reported for the preceding two financial years, the values differed in each case (that is, the ANAO identified three sets of values for each financial year, one for each year it was reported). Defence did not note that adjustments to prior year values had occurred in any of the health checks.

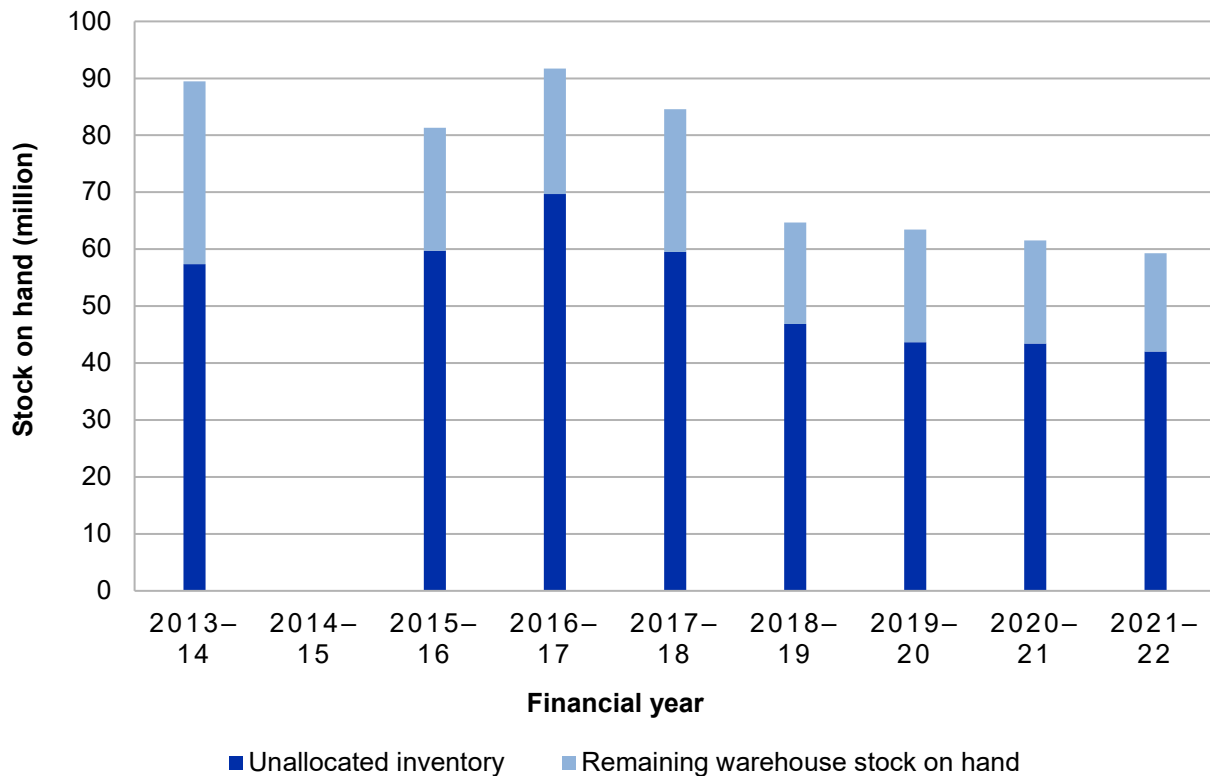
Source: ANAO analysis of Defence documentation.

Unallocated inventory versus remaining warehouse stock on hand

3.60 The number of items of unallocated inventory (items that cannot be identified against a Defence need or activity) compared to remaining warehouse stock on hand, as reported in the annual CASG inventory health checks, is presented in Figure 3.3 below.

3.61 In summary, in 2021–22 there were 42,019,559 items of unallocated inventory, or 71 per cent of total warehouse stock on hand. Between 2013–14 and 2021–22 unallocated inventory has represented between 64 and 76 per cent of total warehouse stock on hand.

Figure 3.3: Number of items of unallocated inventory versus remaining warehouse stock on hand 2013–14 to 2021–22



Note a: Values reflect the figure reported in the health check for the relevant financial year for all years except 2016–17, for which year Defence was unable to provide relevant reports. For 2013–14, 2015–16 and 2016–17, the 2017–18 health check was used. No data was available for 2014–15. ANAO analysis identified that in subsequent years where prior year data was reported for the preceding two financial years, the values differed in some instances (that is, the ANAO identified multiple sets of values for some financial years). Defence did not note that adjustments to prior year values had occurred in any of the health checks.

Source: ANAO analysis of Defence documentation.

3.62 Regarding whether the percentage of unallocated inventory represented inefficiency, Defence advised the ANAO that unallocated inventory was: ‘a predictive model to identify items that may become obsolete and allows Inventory Managers to analyse and act IAW [in accordance with] their Capability Manager’s advice, if required’.

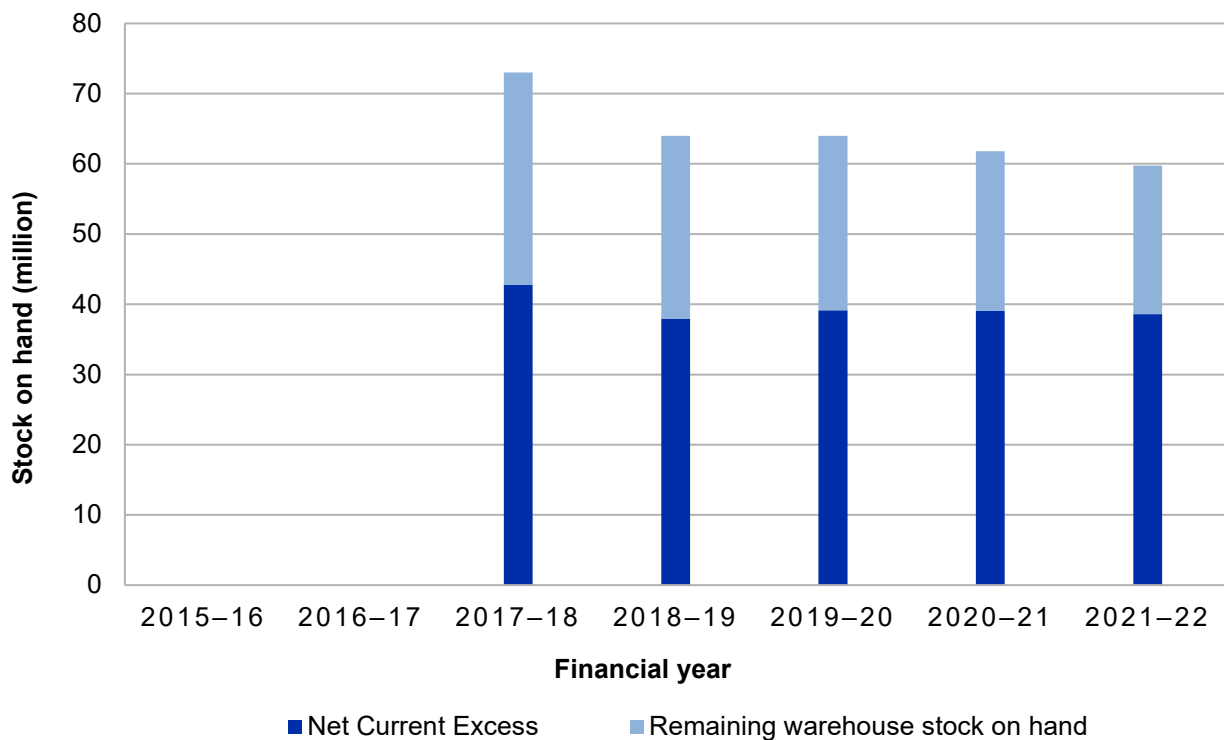
Net current excess versus remaining warehouse stock on hand

3.63 The number of items making up the amount of net current excess⁹¹ versus remaining warehouse stock on hand, as reported in the annual CASG inventory health checks, is presented in Figure 3.4 below.

3.64 In summary, in 2021–22 there were 38,616,436 items considered to form part of the net current excess balance, or 65 per cent of total stock on hand. Between 2017–18 and 2021–22 net current excess has represented between 59 and 65 per cent of total stock on hand.

91 As noted in paragraph 3.41, Defence advised the ANAO in March 2023 that it was unable to advise how the measure was calculated due to the subject matter expert retiring from the Australian Public Service.

Figure 3.4: Net current excess versus remaining warehouse stock on hand 2017–18 to 2021–22



Note a: This measure was introduced in the 2017–18 health check.

Source: ANAO analysis of Defence documentation.

3.65 Regarding whether the net current excess versus remaining warehouse stock on hand values represented inefficiency, Defence advised the ANAO in November 2022 that:

SPOs [System Program Offices] and their Capability Managers consider a range of environmental planning factors, including emerging threats, that influence acceptable holdings to support Product Schedules. IMAT [Inventory Measurement and Analysis Tool] measures are indicators only, and one input in a broader discussion about balanced inventory.

3.66 Defence further advised the ANAO in March 2023 that:

Environmental factors cover a very large and ambiguous range of areas. Environmental factors referenced in the comments to ANAO refer to strategic, global, domestic and international response, and supply chain considerations that are not possible to document.

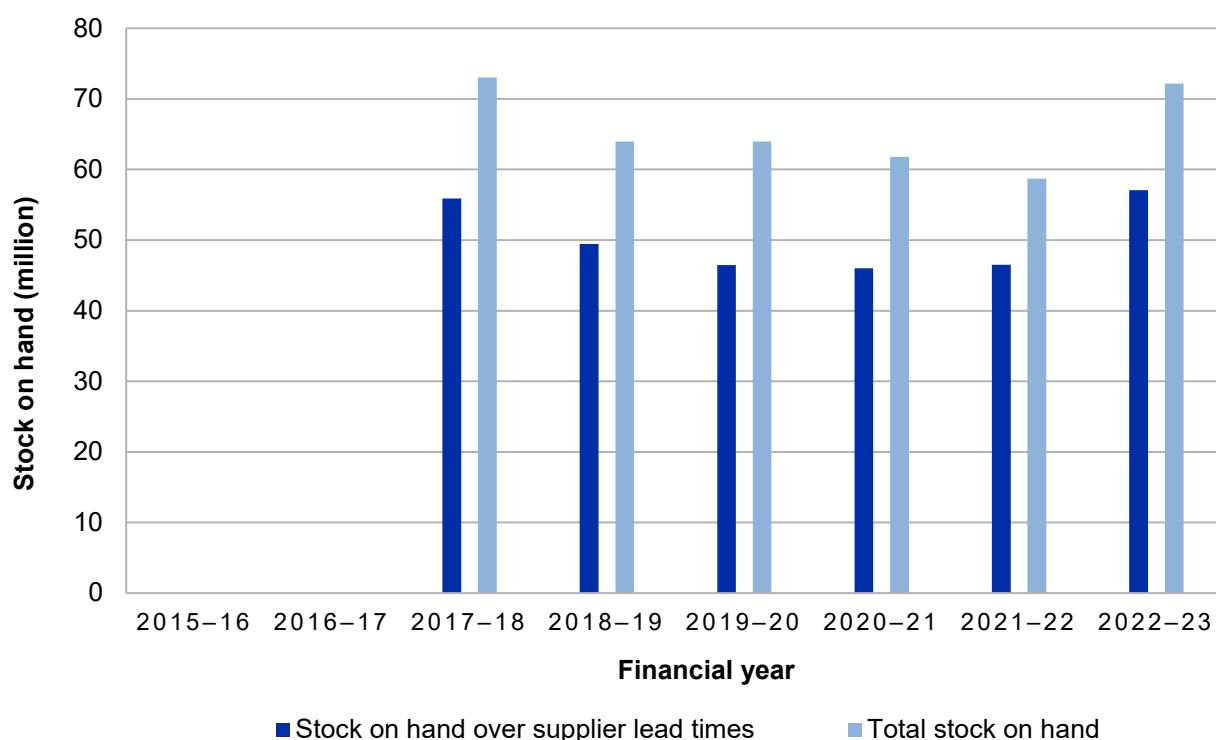
Stock on Hand over Supplier Lead Times

3.67 The amount of stock on hand over supplier lead times (stock that exceeds optimal replenishment quantity at the end of lead time) compared to total warehouse stock on hand, is presented in Figure 3.5 below. This information was reported in the annual CASG inventory health checks for 2015–16 to 2021–22. The 2022–23 information was calculated by the ANAO and covers the period to 7 February 2023.

3.68 In summary, in 2021–22 there were 46,495,503 items of warehouse stock on hand comprising the stock on hand over supplier lead times balance, or 79 per cent of total warehouse stock on hand. Between 2017–18 and 2021–22 stock on hand over supplier lead times has

represented between 72 and 79 per cent of total warehouse stock on hand. For 2022–23, the ANAO calculated that as of 7 February 2023 stock on hand over supplier lead times represented 79 per cent of total warehouse stock on hand.

Figure 3.5: Stock on hand over supplier lead times versus total stock on hand 2015–16 to 2022–23



Note a: There was no equivalent whole-of-CASG data available for 2015–16, although overstocks were reported at the division/domain level. Defence did not retain the whole-of-CASG report for 2016–17.

Source: ANAO analysis of Defence documentation.

3.69 Regarding whether the stock on hand over supplier lead times values reported in the health check represented inefficiency, Defence advised the ANAO in November 2022 that:

IMAT [Inventory Measurement and Analysis Tool] performance indicators are only one input to an exchange between the SPO [System Program Office] and their Capability Managers on **environmental considerations** that could drive whether this is reflecting inefficiency or an acceptable level to support Product Schedules [emphasis in original].

3.70 Defence further advised the ANAO in March 2023 that:

Product/Fleet screening cover many areas, with environment but one area. However ... the system (MILIS) shows areas of consideration for environmental issues (e.g. Problematic Items of Supply). It is both the Capability Manager and the Sustainment managers' responsibility to determine which areas are relevant.

3.71 The ANAO's analysis found that as at 7 February 2023, consistent with the findings of the 2017–18 health check (discussed in paragraph 3.46), globally active stock codes accounted for 76 per cent of stock on hand over supplier lead time. The remaining overstock was accounted for by

globally inactive stock codes (13 per cent), slow moving items (10 per cent)⁹², and new items (less than one per cent). These findings indicate that the vast majority of overstocks cannot be explained by: GSI associated with legacy platforms; globally inactive items; slow moving items, which AIMS and MILIS are unable to reliably forecast; or new items, for which there is insufficient data to support reliable forecasting (see paragraph 3.46).

3.72 The ANAO's analysis also found the following, as at 7 February 2023.

- Four per cent of stock codes, representing one per cent of warehouse stock on hand, were last issued 10 or more years ago; 16 per cent of stock codes, representing six per cent of warehouse stock on hand, were last issued five or more years ago; and 26 per cent of stock codes, representing 15 per cent of warehouse stock on hand, were last issued 2 or more years ago. 53 per cent of stock codes, representing six per cent of warehouse stock on hand, had no last issue date. Five per cent of stock codes with no last issue date, representing less than one per cent of warehouse stock on hand, were accounted for by new items. Defence was unable to advise the ANAO: how many stock codes had and did not have issue data in MILIS; whether items with no last issue date were items last issued before MILIS was introduced; or why stock codes which do not reflect new items would not have issue data in MILIS. Defence advised the ANAO in May 2023 that:

Performing the required analysis and sourcing the evidence will take some time. Defence will undertake the analysis and provide a response as the first phase of the forward work plan to remediate identified issues committed to as part of Defence's response to recommendation 4 [of the audit].

- Six per cent of stock codes, representing five per cent of warehouse stock on hand, related to stock that was last purchased 10 or more years ago; 22 per cent of stock codes, representing 32 per cent of warehouse stock on hand, related to stock last purchased five or more years ago; and 32 per cent of stock codes, representing 47 per cent of warehouse stock on hand, related to stock last purchased two or more years ago. 56 per cent of stock codes, representing 19 per cent of warehouse stock on hand, had no last purchase date.⁹³ Four per cent of stock codes with no last purchase date, representing less than one per cent of warehouse stock on hand, were accounted for by new items. Defence was unable to advise the ANAO: why new items would not have a last purchase date in MILIS; how stock codes which did not have a valid purchase order loaded in MILIS can have warehouse stock on hand recorded against them; or whether new items with no last purchase date

92 'Slow moving item' (SMI) is defined in the Electronic Supply Chain Manual as a type of item 'with no more than one customer requisition in any one of the previous three full years or current in-year'. CASG's Materiel Planning and Management Policy notes that due to the 'slow' consumption rate, 'CASG system applications (that is, MILIS & AIMS) are unable to appropriately forecast future demand or calculate a safety stock requirement. As a result, SMI items are at a greater risk of both overstock and/or stock out, than faster moving inventory.'

93 Defence advice to the ANAO indicated that this was not necessarily due to last purchase dates preceding the introduction of the MILIS system. MILIS was loaded with purchase order data preceding its introduction, and stock codes reporting no last purchase date in IMAT accurately reflected the underlying MILIS record. Defence was unable to advise the ANAO why items that were not new items would not have a last purchase date in MILIS. Defence advised the ANAO in May 2023 that:

Performing the required analysis and sourcing the requested evidence will take some time. Defence will undertake the analysis and provide a response as the first phase of the forward work plan to remediate identified issues committed to as part of Defence's response to recommendation 4 [of the audit].

reflected purchasing undertaken in a system other than MILIS. Defence advised the ANAO in May 2023 that:

Performing the required analysis and sourcing the evidence will take some time. Defence will undertake the analysis and provide a response as the first phase of the forward work plan to remediate identified issues committed to as part of Defence's response to recommendation 4 [of the audit].

Overstocked items

3.73 The ANAO reviewed the data in the Inventory Measurement and Analysis Tool (IMAT) report that is generated to prepare the annual CASG inventory health checks, to identify overstocked items (stock on hand over supplier lead times).

3.74 Appendix 4 of this audit lists the 20 GSI items (stock codes) with the highest system-calculated level of overstocking, as at 7 February 2023.

3.75 Box 4 below describes: the three GSI items with the highest system-calculated levels of overstock; and the two GSI items with the highest years-to-consume values (the system-calculated time it will take to use the stock). These items are part of the 20 GSI items (stock codes) with the highest system-calculated levels of overstock.

Box 4: Items of GSI with system-calculated levels of overstock as at 7 February 2023

Top three items

Based on the data in the IMAT report supporting CASG's annual inventory health checks, the three stock codes with the highest amount of total overstocks were as follows.

- Ornamental lace^a — for this stock code, total system-calculated overstock, which included stock on order, was 1,216,351 items. This represented 97 per cent of warehouse stock on hand. The system-calculated years-to-consume value for this item was 27.31 years. Defence advised the ANAO in March 2023 that:

In line with AIMS PIPE [projected inventory position evaluation], this IOS would be considered for partial disposal to balance inventory. Two key factors would influence SPO analysis of inventory health for this item; the effect upon demand patterns for uniform items during the COVID and post-COVID period; and the ability to repetitively procure the item throughout the life of the full uniform.

- Sandbags — for this stock code, total system-calculated overstock, which included stock on order, was 1,086,291 items. This represented 155 per cent of warehouse stock on hand.^b The system-calculated years-to-consume value for this item was 2.34 years. Defence advised the ANAO in March 2023 that:

The ability to respond to unplanned High Risk Weather events and Humanitarian Relief activities is a high priority for Defence.

Land [Domain] are currently transferring 141 excess weeks of stock for distribution around the Defence network, totalling 504 000 units at \$564 480. AIMS indicates that the excess locations are major Defence operational and distribution supply hubs around Australian states ...

This action to stock in excess of AIMS recommendations is likely driven as part of Defence's Humanitarian, Aid and Disaster relief, though technically the AIMS Fleet Manager should mitigate PIPE by understand the ADF requirement and if required load an anticipated ADF consumption forecast if appropriate.

CASG ML Function will investigate other alternatives to meet any Government and Capability Manager directive, likely through Inventory Stock Level Planning (formerly stock assignment codes) within SAP SCM Classification Codes and the application into AIMS to maintain approved stock levels.

- Lithium non-rechargeable batteries AA size 1.5 volt — for this stock code, total system-calculated overstock, which included stock on order, was 438,937 items. This represented 238.62 per cent of warehouse stock on hand. The system-calculated years-to-consume value for this item was 1.41 years. Defence advised the ANAO in March 2023 that:

Given the long shelf life and type of item (AA batteries) the items will be consumed just under the AIMS surplus limit of 104 weeks.^c

Items within the top 20 stock codes with high years-to-consume values

- Steel strand wire rope — total system-calculated overstock, which included stock on order, was 925,470 items. This represented 100 per cent of warehouse stock on hand.^d The system-calculated years-to-consume value for this item was 976.89 years. In response to a request from the ANAO to explain the rationale for holding this amount of overstock, Defence advised the ANAO in March 2023 that:

Industry Partner flexibility to apply their own best of breed tools is an important consideration when negotiating opportunities to drive down through life support costs, therefore the mandate to use AIMS for forecasting was removed several years ago. As a result of the ANAO's audit recommendations, Force Posture considerations, and the Defence Strategic Review, Defence will reconsider this decision and the effectiveness of alternate approaches in use for requirements determination and spares modelling.

- Metal bars — total system-calculated overstock, which include stock on order, was 811,211 items. This represented 100 per cent of warehouse stock on hand. The system-calculated years-to-consume value for this item was 207.63 years. In response to a request from the ANAO to explain the rationale for holding this amount of overstock, Defence advised the ANAO in March 2023 that:

Industry Partner flexibility to apply their own best of breed tools is an important consideration when negotiating opportunities to drive down through life support costs, therefore the mandate to use AIMS for forecasting was removed several years ago. As a result of the ANAO's audit recommendations, Force Posture considerations, and the Defence Strategic Review, Defence will reconsider this decision and the effectiveness of alternate approaches in use for requirements determination and spares modelling.

- Other items — the top twenty items by quantity, of system-calculated overstock, included six other types of items which had years-to-consume values calculated by Defence systems to be a decade or more.

Note a: The stock code description was '2 Pct Gold Lace, ½ In. (12.7 Mm) W'. This stock code was associated with an Army product delivery agreement for ADF clothing, which included inventory and asset demand satisfaction rate key performance indicators for ADF clothing in aggregate, rather than this stock code.

Note b: The calculation in AIMS which identifies overstocked items, as noted at footnote 83, includes existing replenishment orders, with the result that the number of overstocked items can exceed the warehouse stock on hand.

Note c: This stock code was linked to night vision goggles, night aiming devices and other night fighting assets in the relevant product delivery agreement, which included inventory and asset demand satisfaction rate key performance indicators for the types of equipment listed in the agreement, rather than for this stock code.

Note d: This stock code was tagged as 'slow moving inventory', which is defined in the Electronic Supply Chain Manual as a type of item 'with no more than one customer requisition in any one of the previous three full years or current in-year'. There is also a special category of 'Slow Moving Item', which is known to be held for long periods due to infrequent issue.

Source: ANAO analysis of Defence documentation.

3.76 Maintaining a focus on the efficient and economical management of GSI post-procurement is particularly relevant when inventory is held for extended periods of time. The high levels of overstocks, calculated on the basis of Defence inventory data, indicate that SPOs continue to not calculate and/or model, or at least enter in AIMS and MILIS, operational viability resource and reserve stock quantities (see paragraph 3.37). The continuation of this practice suggests that there may be weaknesses in Defence's training for Designated Logistics Managers and/or its compliance activities relevant to the implementation of its policy and procedural framework for the management of GSI.

3.77 Since their introduction in 2015–16, CASG's annual inventory health checks have included advice, analysis and commentary on the reasons for overstocking and inefficiency in Defence's management of GSI. While health check findings are reported to operational management and senior leaders within Defence, there was no indication until late in this audit of a focus by Defence senior leaders on these known issues, nor an active senior management response.

3.78 Defence advised the ANAO in November 2022 that remediation for known risks and issues has been deferred until the introduction of the logistics component of Defence's new Enterprise Resource Planning (ERP) ICT initiative. Defence's deferral of remediation of known risks and issues indicates that it intends to continue to be non-compliant with its policy and procedure documents until the implementation of the logistics component of the ERP system. Defence advised the ANAO in March 2023 that:

While Defence has not implemented the framework regarding cost effective and efficient inventory management, Defence senior leaders were aware of the issues but have been limited by current capability and resources across a very complex process. Part of the outcomes being sought from the implementation of the Enterprise Resource Planning project is to deliver improved capability, enhanced functionality and new policy which will address the concerns raised.

3.79 Sound inventory management is essential to the achievement of Defence's purposes, particularly having regard to Defence's advice to the ANAO in relation to the impact of the changing geo-strategic environment and the Defence Strategic Review on Defence's approach to the management of its GSI. Sound inventory management is also essential to the discharge of the accountable authority's obligations regarding the proper use and management of public resources. Under the *Public Governance, Performance and Accountability Act 2013*, proper use includes the efficient, effective, economical and ethical use of resources.

3.80 An active senior management response to the known issues contributing to inefficiency in Defence's management of GSI would usefully include a review of training and compliance arrangements across all Domains and SPOs, to ensure that operational and reserve stock

requirements are calculated and/or modelled and that these values are recorded in Defence's inventory management systems. It would also include a review of procurement against stock codes which are inactive, including those with no usage history, to determine whether these represent unauthorised overstocking.

Recommendation no. 4

3.81 The Department of Defence develop a senior management response to the known issues contributing to inefficiency and overstocking in the management of general stores inventory, including a review of:

- (a) inventory management training and compliance arrangements across all Domains and System Program Offices, to ensure that operational and reserve stock requirements are calculated and/or modelled and that these values are recorded in Defence's inventory management systems; and
- (b) procurement against stock codes which are inactive, including those with no usage history, to determine whether these represent unauthorised overstocking.

Department of Defence response: *Agreed.*

3.82 *Defence will engage with senior leaders and conduct the review to inform the development of a forward work plan to remediate identified issues. An established cross-Domain working group will coordinate the implementation of activity across the enterprise.*



Grant Hehir
Auditor-General

Canberra ACT
7 June 2023

Appendices

Appendix 1 Entity response



Australian Government

Defence

PO Box 7900 CANBERRA BC ACT 2610

EC23-001553

Mr Grant Hehir
Auditor-General
PO BOX 707
CANBERRA ACT 2601

Dear Mr Hehir *Dear Grant*

Australian National Audit Office (ANAO) Section 19 Proposed Report – Defence's Management of General Stores Inventory

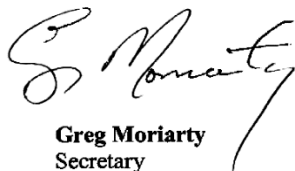
Thank you for the opportunity to comment on the Proposed Report for the ANAO performance audit Department of Defence's Management of General Stores Inventory.

Defence is committed to strengthening processes and controls for the management of General Stores Inventory and will consider key strategic inputs to Defence preparedness and planning guidance to inform remediation priorities for consistency and assurance. The Defence Enterprise Resource Planning system currently being implemented will deliver enhanced capability to track labour, storage and distribution costs to a greater level of granularity.

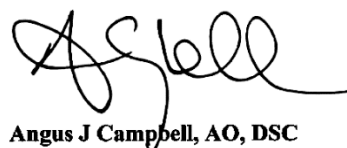
Attached to this letter are Defence's Proposed Amendments, Editorials and Comments (**Annex A**); Defence's Response to Requests for Information (**Annex B**); Defence's Response to the Proposed Recommendations (**Annex C**); and Defence's Summary Response (**Annex D**). These constitute Defence's formal response to the Section 19 proposed report.

Our point of contact is the ANAO Liaison Officer who can be contacted via email at: anao.lo@defence.gov.au.

Yours sincerely


Greg Moriarty
Secretary

11 May 2022


Angus J Campbell, AO, DSC
General
Chief of the Defence Force

11 May 2022

Appendix 2 Improvements observed by the ANAO

1. The existence of independent external audit, and the accompanying potential for scrutiny improves performance. Improvements in administrative and management practices usually occur: in anticipation of ANAO audit activity; during an audit engagement; as interim findings are made; and/or after the audit has been completed and formal findings are communicated.

2. The Joint Committee of Public Accounts and Audit (JCPAA) has encouraged the ANAO to consider ways in which the ANAO could capture and describe some of these impacts. The ANAO's 2022–23 Corporate Plan states that the ANAO's annual performance statements will provide a narrative that will consider, amongst other matters, analysis of key improvements made by entities during a performance audit process based on information included in tabled performance audit reports.

3. Performance audits involve close engagement between the ANAO and the audited entity as well as other stakeholders involved in the program or activity being audited. Throughout the audit engagement, the ANAO outlines to the entity the preliminary audit findings, conclusions and potential audit recommendations. This ensures that final recommendations are appropriately targeted and encourages entities to take early remedial action on any identified matters during the course of an audit. Remedial actions entities may take during the audit include:

- strengthening governance arrangements;
- introducing or revising policies, strategies, guidelines or administrative processes; and
- initiating reviews or investigations.

4. In this context, the below actions were observed by the ANAO during the course of the audit.

- As noted in paragraph 2.73, Defence advised the ANAO that its existing policy and procedural framework for the management of its inventory, which includes GSI, will be replaced to coincide with the rollout of the component of Defence's new Enterprise Resource Planning (ERP) system which will replace MILIS.
- As noted in paragraph 2.76, the Defence Logistics Document Suite Reform was formally launched on 27 April 2023 via a minute issued by the Chief of Joint Logistics, in their role as Defence Logistics Authority Delegate, 'to deliver a revised set of authoritative enabling documents and to create a new Defence Logistics Document Suite (DLDS).'
- As noted in paragraph 3.47, CASG intends to replace forecasting functions currently performed in AIMS (using IMAT) with 'OPUS Suite' software by the end of 2023.
- As noted in Box 4 Defence advised the ANAO in respect to its prior decision to not mandate AIMS for inventory forecasting, that 'As a result of the ANAO's audit recommendations, Force Posture considerations, and the Defence Strategic Review, Defence will reconsider this decision and the effectiveness of alternate approaches in use for requirements determination and spares modelling.'

- As noted at paragraph 3.17, Defence advised the ANAO in March 2023 that the CASG monthly and bi-annual reporting procedures were currently under review and on schedule for a 2023 release.
5. It is not clear whether these actions and/or the timing of these actions were planned in response to proposed or actual audit activity. The ANAO has not sought to obtain assurance over the source of these actions or whether they have been appropriately implemented.

Appendix 3 Reviews, reform programs and internal audits of Defence's inventory management

2008 Audit of the Defence Budget and the 2009 Strategic Reform Program

1. The 2008 Audit of the Defence Budget (the Pappas Review)⁹⁴ noted some specific characteristics of Defence's inventory.

The nature of Defence means that its inventory holdings have some unusual characteristics. A large number of stock items are rarely issued because of the need to hold reserve stock quantities to meet war-stock requirements. More than half the items of General Stores Inventory (GSI) and Guided Weapons with a balance above zero have not had any issues in more than 6 years. Further, Defence often needs to hold 'Life of Type' stocks, when future supply is not guaranteed (for example, due to an equipment manufacturer ceasing production) and a bulk purchase of remaining stock is necessary to guarantee long-term requirements.⁹⁵

2. The report identified three areas of policy driven reform and three areas for improvement in inventory management practices to optimise inventory holdings. The three areas were: delineating 'strategic or excusable overstocking' from sub-optimal holdings; greater transparency on holding, distribution and service level costs; and separating customer and Defence Materiel Organisation (DMO) roles. At that time, the DMO undertook the functions of the current Capability Acquisition and Sustainment Group (CASG).

3. The report also identified an opportunity for Defence to make one-off and ongoing savings by reducing its excess stocks of General Stores and Explosive Ordnance Inventories.

4. On reducing excess stocks of GSI, the report stated that:

The nominal balance of GSI has risen from \$1.75 [billion] to \$1.99 billion over the past 3 years. Most of this is due to adjustments to stock that previously had 'zero' or 'nominal' prices, as Defence has remediated its financial statements as required by the ANAO. Adjusting for pricing corrections shows that the balance of GSI has decreased by \$120 million over the past 3 years (Exhibit 61). There is a significant and relatively stable provision for obsolescence over GSI inventory, of \$714 million in 2008.

A concerted effort has been made to reduce unnecessary stock. The inventory disposals program has disposed of 32 million units of GSI between FY04 and FY08, most in the past 3 years.⁹⁶

5. The report recommended that Defence review all its holdings of GSI 'to identify excess stock holdings and pinpoint which of those could be disposed of'.⁹⁷ The report also recommended that 'GSI stock holdings with excess stock that allow a purchasing holiday are identified and ordering ceased until the excess is consumed. The remaining excess should be disposed of, along with obsolete stock'.⁹⁸

94 The Pappas recommendations became the foundation of Defence's Strategic Reform Program (SRP), launched by the Australian Government in May 2009. Defence's management of the Strategic Reform Program was examined in Auditor-General Report No.6 2013–14 *Capability Development Reform*.

95 Defence, *2008 Audit of the Defence Budget*, April 2009, p. 129, available from <https://defence.gov.au/publications/DefenceBudgetAudit.pdf> [accessed 23 May 2022]

96 *ibid.*, pp. 141–42.

97 *ibid.*, p. 142.

98 *ibid.*, p. 143.

6. The report further noted that:

Improved performance in inventory management practices will require an increased skill level rather than additional personnel. Interviews with personnel across the inventory management system indicated a lack of understanding of the reason for using tools and managing inventory to optimal levels (rather than stockpiling). A high turnover of stock owners and a lack of understanding of requirements tools among middle managers may compound the problem.

7. Defence's Inventory Reform Program Implementation Plan (2010) set out the following primary areas of inventory management reform, required to achieve the intent of the Smart Sustainment Stream of the 2009 Strategic Reform Program reforms:

- in conjunction/consultation with Capability Managers, the economic disposal of, or run down of excess inventory;
- introducing more efficient procurement practices to reduce future build ups;
- rationalising logistics processes; and
- adopting best commercial practice for inventory management, including more efficient use of warehouse space.

Optimising inventory holdings and introducing more efficient techniques will deliver gross savings of around \$700 million over the decade.

8. A March 2010 DMO fact sheet on the Inventory Reform Program noted that:

An activity commenced in late 2009 to review and refresh the parameters used by Defence in calculating the Economic Order Quantity for stores/consumable items. Providing Supply Chain Managers with visibility of the full cost of inventory (holding costs etc) will enable more proactive and efficient procurement decisions for Defence.

In essence we are seeking a cost-conscious culture that recognises the importance of compliance with business processes and policies. In turn, policies and processes that are not efficient or effective will be addressed to ensure that, in our day to day business, we are meeting today's requirements and positioning Defence for success in the future.

Balanced Inventory Project

9. Between February 2011 and December 2012 Defence conducted a Balanced Inventory Project across 35 System Program Offices (SPOs) in two phases, with contracted support (from GRA Supply Chain Pty Ltd) under an existing support contract at a cost of \$2.1 million. The closure report for the project, dated 8 February 2013, outlined the project's purpose as follows.

The Defence Inventory Reform Program (DIRP) is being implemented to achieve the \$700m savings identified and recommended by the Pappas review through optimising inventory holdings. To achieve the first tranche of this strategic reform requirement, a Balanced Inventory Project (BIP) was undertaken to balance inventory holdings, procurement costs and capability performance requirements through an integrated series of activities stated below:

- a. Mandate inventory categorisation policy,
- b. Mandate use of AIMS for Commonwealth owned and managed inventory,
- c. Analyse environmental data,
- d. Adjust requirements determination settings, and

- e. Improve generic inventory management processes.

10. The Balanced Inventory Project undertook a series of inventory management data structure reviews, costing parameter and policy updates 'to establish a firm foundation for undertaking improved inventory management within System Program Offices (SPO).' The project closure report stated that:

The implementation of the updated/new policies and procedures are underpinned by the following:

- a. Standardising on the use of AIMS for all Defence managed inventory:
 - i. Phase one – SPOs that directly manage significant quantities of General Stores Inventory (GSI).
 - ii. Phase two – SPOs that directly manage lesser quantities of GSI.
 - iii. Phase three – Contractor Managed GSI and Inventory Management during acquisition.
- b. During phase one, BIP realised an opportunity to deliver a significant contribution to the broader DIRP [Defence Inventory Reform Program] and the following additional phases were defined:
 - i. Phase four – AIMS/BART [Business Analysis and Reporting Tool]⁹⁹ System enhancements.
 - ii. Phase five – Repairable Item Management scoping study.
 - iii. Phase six – EOD BIP activity roll out.

11. The first phase of the Balanced Inventory Project was delivered by GRA Supply Chain Pty Ltd against the following three bodies of work outlined in an initial impact assessment.

- a. BIP [Balanced Inventory Project] Environment Data Analysis.
- b. BIP Business Process tailoring, mentoring and coaching including up-skilling in the use of AIMS.
- c. BIP Performance Measurement Framework (PMF).

12. The second phase of the Balanced Inventory Project was delivered by Defence personnel. Phases three to six were transferred to the Managed Inventory Project within the Defence Inventory Reform Program.¹⁰⁰

13. The closure report outlined the following outcomes of the Balanced Inventory Program.

The BIP enabled the Defence Materiel Organisation (DMO) to balance inventory holdings, as measured by number of units stored within its distribution and user network, to a level capable of meeting specified demand satisfaction rates subject to the availability of sufficient funds to maintain required stockholding levels. This was achieved by the following:

- a. Mandating and Standardisation of the use of AIMS for all Defence managed GSI;

99 ANAO comment: BART was replaced by the Inventory Measurement and Analysis Tool for inventory management performance reporting purposes.

100 The Managed Inventory Project scope included upgrade of AIMS to version 8, Repairable Items Management Business Process Reform, Strategic Demand Planning, and Advanced Supply Chain Management.

- b. Implement [sic] inventory PMF [performance measurement framework] which utilises data drawn from the corporate tools providing visibility of inventory management performance at all levels; and
- c. develop [sic] an AIMS-based Provision For Obsolescence (PFO) calculation process.

14. The closure report noted the following elements originally within project scope that were ongoing at project closure.

- a. Economic Order Quantity (EOQ) parameter update;
- b. Neglected Inventory Progress;
- c. Inventory categorisation progress; and
- d. Identification of disposal candidates.

15. The project closure report noted that:

the ongoing sustainment of the change BIP [Balanced Inventory Project] has delivered will become the responsibility of the MLO [Materiel Logistics Office] within Standardisation Branch [a part of the DMO]. Sufficient resources are required to provide ongoing monitoring of inventory improvements and to support the user community to prevent lapses back into poor practice. Failure to provide these resources will negate any short term efficiencies and put in doubt the projected savings targets of the Strategic Reform Program.

16. The MLO was superseded by the Materiel Logistics Centre of Expertise and subsequently by the Materiel Logistics Function. See footnote 69 in this audit report.

2015 First Principles Review of Defence

17. The 2015 Defence First Principles Review¹⁰¹ referenced analysis of the MILIS Inventory Procurement Policy and Risk Environment Assessment undertaken by the Boston Consulting Group.¹⁰² In response to an ANAO request for this analysis, Defence advised the ANAO in October 2022 that:

Over the past month, CASG Records management has conducted an extensive search of Defence records. Due to the age of the file, Defence is unable to provide a copy of the Boston Consulting Group's analysis of the MILIS Inventory Procurement Policy and Risk Environment Assessment. The search included:

- A search of CASG Objective workgroups for the document in a digital format, including the former Standardisation Office Objective Workgroup;
- A search of the cabinets where physical documents were previously stored;

101 The Minister for Defence commissioned the First Principles Review of Defence (the Review) in August 2014. The Review was 'designed to ensure Defence is fit for purpose and able to promptly respond to future challenges'. In April 2015, following government consideration, the Minister for Defence released the report of the Review, entitled *First Principles Review: Creating One Defence*. The Review made 76 recommendations, of which six were key recommendations. The Government agreed or agreed in-principle to 75 recommendations. The review is available from <https://www.defence.gov.au/about/reviews-inquiries/first-principles-review-creating-one-defence> [accessed 13 January 2023].

The ANAO examined Defence's implementation of the First Principles Review in Auditor-General Report No. 34 2017–18 *Defence's Implementation of the First Principles Review*.

102 See footnote 41 on page 34 of the Review.

- Advanced search tools in Objective to scan email attachments;
- Search of DSN Objective;
- Search of business unit shared drives; and
- a retrieval request for archived files with no result.

Supply Chain Stockholding Review

18. On 23 June 2016, CJLOG issued a minute initiating ‘the conduct of a cooperative review by JLC [Joint Logistics Command], CASG and Army to optimise elements of the Defence supply chain.’ The review commenced in September 2016 as a pilot activity directed at inventory within two product schedules managed by CASG’s Land Systems Division. The focus of the review was on ‘articulating adequate inventory holdings to meet preparedness requirements, the disposal of inactive inventory and major overstocks as well as halting procurement activities for overstocked items with active consumption.’

19. Defence records indicate that CJLOG intended to ‘release a Strategic J4 Directive for a tri-Service proof of concept phase, before a full roll-out of the review across all Defence product schedules’ and anticipated ‘that full optimisation would be achieved, with enduring performance metrics enabled, by FY [financial year] 18/19.’

20. Internal advice to CJLOG dated 21 October 2016 recommended that CJLOG note that: the review would assess ‘X’ and ‘A’ stock classes in detail; and that each product schedule would be reviewed. This approach was endorsed by CJLOG. The advice also observed that:

Procurement and stocking considerations have been determined by demand satisfaction rates and customer wait time. This drives a spend-to-budget culture and makes overstocking an accepted fleet management norm.

CASG Land Systems Division Inventory Reform Program and Commodity Reform Program

Inventory Reform Program

21. Land Systems Division in CASG implemented a Land Systems Division Inventory Reform Program in 2017 ‘to replace a ‘spend to budget’ culture with a more deliberate and planned approach to inventory management and stocking levels.’

22. In March 2017 Head Land Systems issued a direction to Land Systems Division Branch Heads to cease procurement of inventory items where stockholdings exceeded two years usage, unless there was a compelling capability or commercial reason why more supply should be maintained. The direction noted that it was being issued to ‘curb expenditure on excess inventory and to reduce corresponding stockholding impositions on JLC warehousing operations’, with the intent ‘to reduce excess inventory levels without impacting capability requirements and return resultant savings to Capability Managers.’

23. In April 2020 Head Land Systems issued a direction replacing the March 2017 direction with the following guidance.

While a two-year global stocking level may be a useful base-line for inventory in the absence of guidance from Capability Managers or a detailed understanding of factors determining the best provisioning levels, this is not my expected default position. In some instances items should have

much lower holding than two years of stock, such as those items readily available through the Commodity Reform Program. Conversely, some items may require greater than two-years of inventory determined by fleet manager's detailed assessment of multiple factors, such as lead times vs economic order quantities, or impending final production runs.

24. The April 2020 Head Land Systems direction further directed that SPOs were to 'utilise all available tools including AIMS, procurement plans and inventory reports based on preparedness, Raise-Train-Sustain (RTS) requirements and their understanding [of] the risks in the commercial supply chain.' The direction outlined that while the program and associated disposals had 'resulted in a small number of errant disposals and stockout occurrences, they have achieved their primary intent'. Defence advised the ANAO in December 2022 that the direction formally ended the Land Systems Division Inventory Reform Program.

Commodity Reform Program

25. The Commodity Reform Program, led by the Land Systems Division Commodity Management Centre, transitioned supply of some commodities¹⁰³ from Joint Logistics Command business units and non-JLC warehouses to a fourth party logistics service administered by the Commodity Management Centre. Defence advised the ANAO in December 2022 that the impetus for the program was to address an 'inefficient, highly transactional & unsustainable procurement model for commodities'.

26. Defence ran a pilot program of the Commodity Reform Program between April 2019 and June 2020 in Air Force units based in Queensland. Defence advised the ANAO in December 2022 that the pilot program demonstrated that STOCCMANS reduced transactional work and costs, achieved better pricing, and used less Defence warehouse space.

27. On 17 May 2018 Defence signed a contract valued at \$162,157,667.74 with Toll Remote Logistics Pty Ltd, with an operative date of 12 March 2019, for supply of fourth party logistics services through the STOCCMANS e-commerce platform. The contract is due to expire on 12 March 2024, although there is provision under the contract for extension to 2034. Defence advised the ANAO in March 2023 that contract renewal was being reviewed.

28. Defence advised the ANAO in December 2022 that under the Commodity Reform Program operating model a central procurement team in JLC places orders on STOCCMANS for regionally managed items, while for CASG global items replenishment is raised by the Commodity Management Centre on STOCCMANS and delivered to a JLC warehouse for redistribution.¹⁰⁴

29. Defence further advised that expansion of the Commodity Reform Program into other domains was being considered by the Materiel Logistics Management Group. Defence advised the ANAO in March 2023 that the 'Commodity Reform Program has been trialled in both Land and Air Domains but not Maritime or Joint', and that management of the program had transitioned in January 2023 to the Commercial Function in CASG 'to better orchestrate cross-Domain implementation.'

103 In the context of the Commodity Reform Program, a commodity is defined as "inventory that is low value by nature with little or no residual value remaining at the end of its useful life". Commodities include GSI.

104 Defence's advice noted that after ERP Tranche 1B go-live Defence's intent was that units would order via SAP/ERP, with Toll Regional Logistics Pty Ltd delivering to the point of need (unit or warehouse).

Other reviews and benchmarking activities

30. Defence advised the ANAO in September 2022 that there had been no reviews or audits on:

- requirements determination or procurement of GSI in the last two years;
- management of GSI, supply chain and/or logistics in the last two years; or
- the Advanced Inventory Management System.

31. Defence further advised the ANAO that it has not done any benchmarking of its management of GSI with other Defence forces or commercial entities.

Appendix 4 Top 20 GSI stock codes by amount of system-calculated overstocks

Table A.1: Top 20 GSI stock codes by amount of system-calculated overstocks as at 7 February 2023

Item	Description	Last issue date	Last purchase date	Active or inactive?	Requirements determination method	Years to consume	Total system-calculated overstocks	Total stock on hand	% system-calculated overstock
Ornamental lace	2 Pct Gold Lace, ½ In. (12.7 Mm) W	1/08/2022	–	Active	AIMS	27.31	1,216,351	1,249,800	97.32%
Bag, Sand	Non Rotproof, 840 Mm Lg By 350 Mm W	3/02/2023	15/12/2022	Active	AIMS	2.34	1,086,291	702,493	154.63%
Battery, Non-rechargeable	1.5V, Aa Size, Lithium - (Order In Multiples Of 4)	3/02/2023	31/01/2023	Active	AIMS	1.41	1,023,535	428,937	238.62%
Wire, Tie	Nickel Alloy, 241Mm L, 2Mm Dia O/A; Spool Form, Monel	26/01/2023	20/09/2013	Active	MILIS	49.39	999,335	1,003,217	99.61%
Rope, Wire	Steel Strand, Wire Core, 6 Mm Dia, 33 M Lg	3/11/2020	10/07/2015	SMI	MILIS	976.89	925,470	925,470	100.00%
Bar, Metal	20 X 3Mm, Ss, Grade316	19/09/2022	11/07/2016	Active	MILIS	207.63	811,211	812,365	99.86%
Cord, Fibrous	Cotton & Nylon, Braided, Green, 8 Strand , 2.5 Mm Dia, 650 N Breaking Strength	3/02/2023	4/11/2022	Active	AIMS	0.62	521,153	382,606	136.21%
Plastic Strip, Pressure Sensitive	Adhesive Coated	4/10/2022	15/07/2016	Active	MILIS	4.45	477,000	479,000	99.58%

Item	Description	Last issue date	Last purchase date	Active or inactive?	Requirements determination method	Years to consume	Total system-calculated overstocks	Total stock on hand	% system-calculated overstock
Gasket	Insulator, Vibration, Rubber	1/02/2023	11/05/2015	Active	MILIS	10.65	449,414	458,400	98.04%
Container, Food, Disposable	Aluminium Foil, 205 Mm Lg, 155 Mm W, 35M M Deep, W/3 Compartments, W/O Lid, 'Use With Lid Niin 7350-66-117-2516', To Be Demanded In Multiples Of 500	2/02/2023	30/11/2022	Active	MILIS	3.41	426,916	509,573	83.78%
Rope, Wire	–	21/12/2022	10/08/2016	Active	MILIS	5.37	406,255	408,760	99.39%
Tape, Pressure Sensitive Adhesive	–	11/01/2023	30/07/2021	Active	MILIS	1.24	330,000	621,340	53.11%
Lid, Container Food, Disposable	Lid, Container Food, Disposable, Aluminium Foil, 202 Mm Lg By 152 Mm Wm, To Be Demanded In Multiples Of 500	2/02/2023	30/11/2022	Active	MILIS	2.31	320,637	421,042	76.15%
Cloth, Nonwoven	Glass Fibre Fabric, Aluminised Foil Coat Ing, 0.7Mm Thk, 1000Mm Wd, Roll/50M	2/07/2021	24/06/2013	SMI	MILIS	7.92	250,001	250,001	100.00%

Item	Description	Last issue date	Last purchase date	Active or inactive?	Requirements determination method	Years to consume	Total system-calculated overstocks	Total stock on hand	% system-calculated overstock
Pin, Cotter	Split, Steel, Cad Plated, Extended Prong Sq Cut Point, For 1/16 In. Dia Hole, 3/ 4 In. Lg	23/01/2023	14/06/2019	Active	AIMS	73.94	213,346	217,982	97.87%
Propellant, Torpedo	–	13/08/2020	–	SMI	AIMS	12.18	200,000	200,000	100.00%
Cloth, Burlap	Jute, Hessian, 305 Gm, 102 Cm Wide	20/01/2023	19/09/2022	Active	AIMS	2.81	187,996	253,418	74.18%
Insect Repellent, Personal Application	75 Ml, Plastic Bottle	2/02/2023	19/08/2022	Active	MILIS	8.33	175,307	194,028	90.35%
Bag, Plastic	Bag Plastic Press Seal 90X150 Mm (Pkt 10 0)	12/12/2022	9/01/2023	Active	MILIS	82.23	175,103	175,693	99.66%
Battery, Non-rechargeable	1.5 V, Aa Size, Alkaline - (Order In Mul Tiples Of 4 Or 144)	3/02/2023	10/01/2023	Active	MILIS	1.39	174,274	317,788	54.84%

Source: ANAO analysis of Defence data.