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Audit of Inventory Management: Surpluses & Disposal

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Caveat

Some of the analysis in this report relies on prices recorded in the Canadian Forces Supply System (CFSS). Previous Chief Review Services (CRS) audits have highlighted inaccuracies in this pricing. As a result, no assertion is made as to the accuracy of the reported values, and caution must be exercised in using these results for management decision making without further confirmation.



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Acronyms and Abbreviations

ADM(Mat)	Assistant Deputy Minister (Materiel)
CANOSCOM	Canadian Operational Support Command
CF	Canadian Forces
CFB	Canadian Forces Base
CFDS	Canada First Defence Strategy
CFSD	Canadian Forces Supply Depot
CFSM	Canadian Forces Supply Manual
CFSS	Canadian Forces Supply System
CMSG	Canadian Materiel Support Group
CONOPS	Concept of Operations
CRS	Chief Review Services
DDSAL	Director Disposal, Sales, Artifacts and Loans
DGAEPM	Director General Aerospace Equipment Program Management
DGLEPM	Director General Land Equipment Program Management
DGMEPM	Director General Maritime Equipment Program Management
DGMSSC	Director General Materiel Systems and Supply Chain
D Mar P	Director Maritime Procurement
DMC	Demilitarization Code
DMIS	Director Materiel Information Systems
DMPP	Director Materiel Policy and Procedures
DND	Department of National Defence
DRP	Distribution Resources Planning
DSCO	Director Supply Chain Operations
EMT	Equipment Management Team
EPM	Equipment Program Manager
ERN	Equipment Registration Number
FMAS	Financial Managerial Accounting System
FY	Fiscal Year
FYE	Fiscal Year End
KPI	Key Performance Indicator
LCMM	Life Cycle Materiel Manager
MA&S	Materiel Acquisition and Support



MASIS	Materiel Acquisition and Support Information System
MASOP	Materiel Acquisition and Support Optimization Project
MIMS	Mincom Information Management System
NICP	National Inventory Control Point
NMDS	National Movements and Distribution System
OAG	Office of the Auditor General
OPI	Office of Primary Interest
ROP	Re-order Point
ROQ	Re-order Quantity
RR	Repairable Reserve
SOR	Statement of Requirement
WG	Working Group
WQT	Web Query Tool



Synopsis

As the Canadian Forces (CF) continues to modernize and replace its existing equipment fleets in support of the Canada First Defence Strategy (CFDS), inventory requirements will change and rationalization of existing inventories will be of increased importance.

CRS undertook an audit of current inventory surpluses and disposal practices. The main objective of this audit was to assess whether the measures in place are adequate to effectively and efficiently identify and dispose of surplus inventories. The audit also assessed whether relevant and reliable information to manage surplus holdings is available and whether performance measures to identify significant areas of risk are in place.

The audit noted that certain steps have been taken to improve the management and subsequent disposal of surplus inventory; however, further opportunities for improvement exist. A more regular risk-based review of holdings combined with enhanced disposal practices and more complete, accessible management information would help to ensure that future surplus holdings are minimized and that warehouse space is optimized.

Management agrees that improvements to the stewardship of inventory, including the refinement of existing policies and procedures governing the identification and disposal of surplus inventory, is required and an action plan in this regard has been developed. Management believes that the continued implementation of the Distribution Resource Planning (DRP) application and the further development of key performance measures should allow for increased monitoring and oversight capabilities and more informed materiel management.

The Department will monitor the progress made in implementing the management action plans and will undertake an audit follow-up if warranted.



Results in Brief

CRS has previously completed several audits of the Department of National Defence (DND)'s inventory reporting processes. These audits examined whether reported quantities were accurate and complete; however, they did not address whether mechanisms were in place to ensure appropriate quantities of materiel were being held. During these audits, concern was raised regarding low inventory turnover rates and the level of idle inventory.

Ensuring that CF members have access to the materiel required to perform their duties is a priority. This must be balanced, however, with the requirement to regularly review holdings and dispose of surplus items. Increased management emphasis on the review and disposal process is warranted, along with more complete and reliable management information, and the identification and use of additional performance measures. These actions would assist in ensuring that the level of inventory holdings is optimized.

Overall Assessment

To rationalize inventory holdings and optimize warehouse space, greater emphasis should be placed on:

- Regular review of the level of holdings;
- More efficient disposal of surplus items; and
- Ensuring management information is more complete and reliable, and further developing performance measures.

Findings and Recommendations

Review of CFSS Holdings

While departmental policies require that holdings be reviewed to ensure all surplus items have been identified, little guidance is provided regarding the approach to be used, the recommended frequency, or the manner in which the results of such reviews are to be documented. Consequently, current review practices tend to be *ad hoc* and fragmented. For 56 percent of line items held in DND warehouse accounts (comprising nearly 20 percent of total items), no items had been issued to end-users in the past four years. As well, an increasing number of items are being held in repairable reserve (RR),¹ a portion of which may be more appropriately designated for disposal rather than repair. Finally, many items are being held even though the equipment they support has been retired for several years. These factors suggest that a portion of current holdings may be surplus to departmental needs, and that a comprehensive, risk-based review is warranted.

It is recommended that clearer guidance be provided regarding the frequency of line item review, and that criteria be established to aid in determining which materiel is potentially surplus.

¹ RR is defined as “non-serviceable repairable material stored in a holding area pending the authorization to repair, or dispose.” Canadian Forces Supply Manual (CFSM), Volume 3, Chapter 11, Appendix D, #1.

Disposal Practices

Current departmental policy and procedures could provide additional guidance to improve the efficiency of disposal processes. Prioritizing materiel for disposal—based on characteristics such as the volume of space occupied, the length of time the item has been in a surplus state and the method of demilitarization and disposal required—would result in optimization of storage space, and reduction of both interim storage and disposal costs. In addition, ensuring that appropriate demilitarization instructions are provided in a timely manner and improving the organization of the disposal warehouses would result in reducing the length of time required to dispose of surplus materiel.

It is recommended that clearer guidance regarding disposal prioritization and timelier, more appropriate disposal instructions be provided. In addition, warehouse organization should be enhanced to enable more efficient disposal of surplus materiel.

Management Information and Performance Measures

Ensuring the integrity of key CFSS information would allow materiel and equipment platform managers to identify areas of risk more effectively. Accurate and complete re-order point (ROP) and re-order quantity (ROQ) information, and improved historical usage data are examples of information that would assist managers in making more informed purchase and retention decisions—a key control in minimizing future surpluses. In addition, greater flexibility to customize reports and increased awareness of available reports would significantly facilitate the management of materiel throughout its entire life-cycle.

Developing key performance indicators and standards, and measuring their achievement based on accurate and complete information, would allow for the efficient identification of areas of risk. The Canadian Materiel Support Group (CMSG) has been proactive in defining key performance indicators regarding warehousing operations and Director Supply Chain Operations (DSCO) staff within Assistant Deputy Minister (Materiel) (ADM(Mat)) has developed reports to monitor performance in some areas of materiel management. Further development of relevant performance measures in conjunction with a more integrated approach to risk identification would ensure measures are appropriately focused on department-wide materiel management priorities.

It is recommended that:

- inventory management information recorded in corporate systems be monitored to ensure completeness and reasonableness; and
- further key performance measures be developed, acceptable performance standards be established, and their achievement be actively monitored.

Note: For a detailed list of CRS recommendations and management response, please refer to [Annex A](#)—Management Action Plan.

Introduction

Background

In accordance with the CRS Work Plan for fiscal year (FY) 2007/08, an audit of inventory surpluses and disposal practices was completed.

Previous CRS reports,² as well as senior materiel equipment platform managers, have expressed concern over low materiel turnover rates, the increase in RR levels, and the decrease in available storage space. Storage space is of particular concern at the two Canadian Forces Supply Depots (CFSD) as these locations store the bulk of the Department's materiel before it is put in use.³

Over the four-year period ending 31 March 2008, the quantity of items held in DND warehouse accounts increased by 11 percent. A portion of the increase relates to additional materiel required to support new equipment and to modernize existing equipment. The requirement to carry additional materiel is expected to continue as the CF modernizes and replaces its existing equipment. Consequently, ensuring that current holdings are rationalized and surplus items disposed of is of increased importance in order to minimize space requirements and the associated carrying costs.

Objectives

The objectives of this audit were to assess whether:

- adequate controls are in place to effectively and efficiently minimize surplus inventory and dispose of designated holdings; and
- related information used for decision making is relevant and reliable, and whether performance measures are in place to identify areas of risk.

Criteria used to assess these objectives are listed in [Annex B](#).

Scope

The audit scope included all CFSS holdings in warehouse accounts, excluding stand-alone capital assets and ammunition.⁴ As at 31 March 2008, in-scope warehouse account holdings comprised approximately 164 million items. The audit examined inventory surplus and disposal practices in place during FY 2008/09.

² CRS audits of Inventory Pricing (<http://www.crs-csex.forces.gc.ca/reports-rapports/2007/120P0770-eng.asp>) and Contractor-Held Inventory (<http://www.crs-csex.forces.gc.ca/reports-rapports/2008/136P0816-eng.asp>).

³ As of 31 March 2008, warehouse holdings at the two Canadian Forces Supply Depots comprised 56 percent of the total quantity of warehouse holdings.

⁴ Stand-alone capital assets are not regularly replenished and different criteria are used to determine if these items are surplus. Ammunition is subject to specific disposal regulations. As such, these items were excluded from the scope of the audit.



Methodology

The audit results are based on the following:

- Review of policies and procedures, primarily as documented in the CFSSM, Equipment Management Team (EMT) Handbook, and Life-Cycle Materiel Management (LCMM) Handbook;
- Interviews with key ADM(Mat), Canadian Operational Support Command (CANOSCOM) and Chief of the Maritime Staff personnel;
- Analysis of the CFSS materiel holding information and transactions; and
- Site visits to 7 CFSD Edmonton, 25 CFSD Montreal and the naval supply depot at Canadian Forces Base (CFB) Halifax. These sites were selected because their combined holdings represent 59 percent of the total quantity of warehouse holdings. Site visits included:
 - Review of processes for identification of surplus materiel, and
 - Review of disposal-related activities and records.



Findings and Recommendations

Review of CFSS Holdings

To optimize the level of inventory holdings, policies and practices relating to the review of materiel holdings should be refined. Further guidance regarding the frequency, criteria and documentation of these reviews is required.

Materiel Review Policies

Holdings must be reviewed and rationalized periodically to determine which stock should be maintained and which is truly surplus to departmental needs. Departmental policies define surplus materiel as materiel which is “not required” or “excess.”⁵ The policies outline situations which may result in surplus holdings, such as changes in associated technologies; however, they could provide additional guidance or criteria to assist in determining when stock may be in excess or not required. While the decision to retain an item or a portion of its holdings will always require some degree of judgement, consideration of criteria such as historical and forecasted usage rates would assist in the decision-making process.

Several departmental policies encourage the periodic review of all assigned materiel holdings;⁶ however, little guidance regarding the approach, frequency, and documentation and reporting requirements is provided. Such guidance would assist equipment platform and materiel managers to streamline and optimize the materiel review process and would result in a more consistent and complete approach.

Departmental policies regarding materiel review should include additional guidance on the:

- suggested methodology or approach;
- expected frequency; and
- documentation and reporting requirements.

Materiel Review Process

Key indicators could be used to highlight potential materiel surpluses for subsequent detailed equipment platform and materiel manager review. Three such indicators, based on information currently available in the CFSS, are:

- dormant inventory;
- level of RR; and
- items associated solely with equipment that has been retired or replaced (i.e., inventory associated with obsolete equipment registration numbers (ERN)).

⁵ CFSSM Volume 3, Chapter 10, Section A, 3-10A-001. Paragraph 3 and EMT, Chapter 12, paragraph 8.

⁶ EMT Handbook Chapter 12, LCMM handbook, Chapter 12.



Dormant Inventory. While an item with no recent usage (i.e., dormant) may be required in the future, there is increased probability that dormant items are surplus. An inventory item is considered dormant if no issues have occurred in the preceding four years.⁷ Using this definition, 56 percent of all line items, representing 19 percent of total stock on hand within DND warehouse accounts, were dormant as of 30 June 2008.⁸

Several materiel and equipment platform managers indicated that a four-year dormancy period was insufficient to consider an item as surplus. Further analysis was completed to determine items with no issues during the previous six years.⁹ Using this definition of dormancy, 49 percent of all line items, representing 16 percent of total stock on hand were dormant as of 30 June 2008. Figure 1 displays the percentage of dormant line items (based on six-year rule) held at the three visited sites as of 30 June 2008.

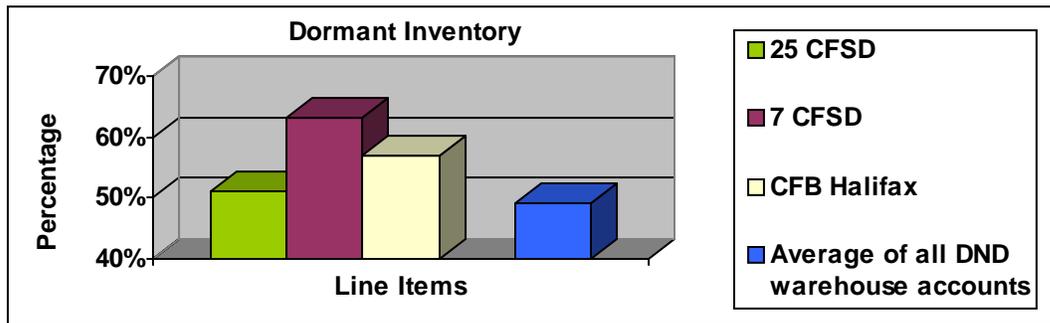


Figure 1. Dormant Inventory at Three Visited Sites. An average of 49 percent of all line items¹⁰ has been dormant since the CFSS upgrade in November 2002, a period of approximately six years.

The data is summarized in the following table:

Visited Sites	Line Items
25 CFSD	51%
7 CFSD	63%
CFB Halifax	57%
Average of all DND warehouse accounts	49%

Table 1. Dormant Inventory.

The EMT Handbook Chapter 12 states, “items that are dormant...should be given a critical review and be seriously considered for disposal.”¹¹ However, none of the equipment platform and materiel managers interviewed were utilizing a CFSS WQT-generated (or any similar) report of dormant materiel to review their assigned holdings. In part this may be because the WQT report cannot be customized to display the holdings assigned to a particular equipment platform or materiel manager.

⁷ As per the CFSS Web Query Tool (WQT) dormancy report located at MIS Tab, District Flag settings, District Obsolete, Dormant and Disposal Stock.

⁸ Line items with negative or zero holdings and those identified as surplus were excluded from this analysis.

⁹ This was the date at which all users had access to the CFSS upgrade.

¹⁰ Excluding items identified as obsolete or for disposal. The three sites graphed represent the sites visited.

¹¹ EMT Handbook, Chapter 12.

Level of Repairable Reserve. RR inventory is “non-serviceable repairable material stored in a holding area pending the authorization to repair, or dispose.”¹² It is often stored awaiting the availability of repair facilities. At the three visited sites, depot staff noted that the RR was requiring more warehouse space and that items stayed in RR for extended periods of time. Department-wide, since 31 March 2006 the number of line items in RR and the associated quantities has increased as shown in Figure 2. As of 31 March 2008, 13,676 line items with total holdings of 140,563 items were held in RR.

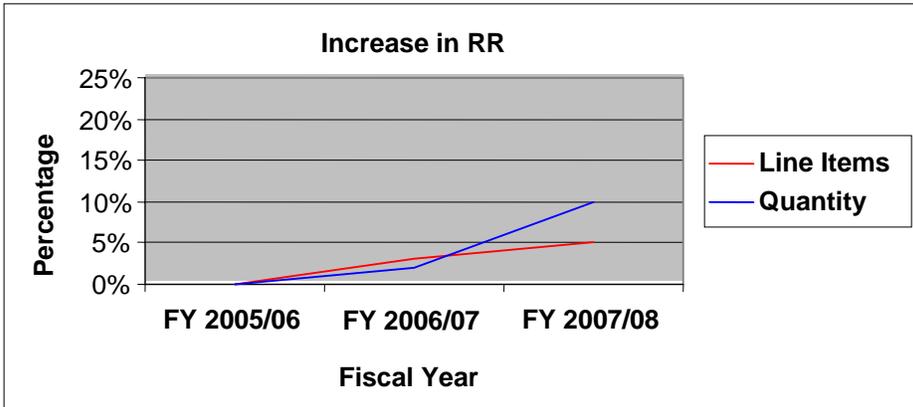


Figure 2. Increase in Departmental RR. Department-wide, over a two-year period, the number of line items in RR and the associated quantity has increased 5 percent and 10 percent, respectively.

The data is summarized in the following table:

Holdings	FY 2005/06	FY 2006/07	FY 2007/08
Line Items	0%	3%	5%
Quantity on hand	0%	2%	10%

Table 2. Total increase in departmental RR since FY 2005/06.

At 31 March 2008, 15 percent of line items in RR had a recorded unit cost of \$500 or less. The cost of holding and subsequently repairing some of these low-dollar value items may outweigh the benefit, in particular if the item could be procured in a timely fashion if required.

Equipment Program Managers (EPM),¹³ in collaboration with CMSG, are taking steps to review materiel currently held in RR. At the time of the audit, DGMEPM had reviewed approximately 500 line items as part of a RR rationalization project. These items were not randomly selected and therefore may not be representative of the entire population to be reviewed. For the reviewed items, DGMEPM determined that:¹⁴

¹² CFSM, Volume 3, Chapter 11, Appendix D, #1.

¹³ The three EPMs are Director General Aerospace Equipment Management (DGAEPM), Director General Land Equipment Management (DGLPEM) and Director General Maritime Equipment Program Management (DGMEPM).

¹⁴ All figures provided by DGMEPM/D Mar P as at 02/17/2009 and have not been independently verified.

- 47 percent should be disposed;
- 27 percent should be repaired; and
- 26 percent should remain in RR.

According to the CFSM “Supply (materiel) Managers are to conduct periodic reviews of RR items and provide disposition instructions.”¹⁵ The current review projects are a positive initiative, and steps need to be taken to ensure such reviews take place on an on-going basis if levels of RR are to be optimized in the long term.

Inventory Associated with Obsolete ERNs. The ERN provides a means of linking materiel (e.g., repair parts) to the equipment, weapon system and sub-system that it supports.¹⁶ The CONOPS guidance for Obsolescence Management states, “When equipment is changed, or retired (i.e., determined to be obsolete) all the materiel connected to it should be identified for review. Those items which do not have an active link (i.e., ERN) to some other equipment should be flagged for potential disposal action.”¹⁷

An analysis of items associated solely with obsolete ERNs shows that this type of materiel review is not always occurring in a timely fashion. Table 1 provides examples where, at the time of the audit, an ERN had been obsolete for at least two years, yet a majority of the line items which were linked solely to this ERN had not been flagged for disposal or assigned to an alternate ERN.

ERN	Date declared obsolete	# of line items linked solely to this ERN	# of these line items with “active” ¹⁸ status	% of these line items with “active” status
46-337-000	October 2005	398	205	52%
70-321-000	May 2003	453	374	83%
71-119-000	October 2005	181	153	85%
73-112-000	October 2005	139	105	76%

Table 3. Inventory Associated with Obsolete ERNs. The majority of line items associated solely with these obsolete ERNs had not been flagged for disposal or assigned to an alternate ERN.

The reported value of the “active” holdings associated uniquely with these four ERNs is approximately \$29 million. More than 2,000 ERNs have been declared obsolete since 2003. A review of the holdings associated with obsolete ERNs should be completed to ensure the levels of unneeded inventory and associated carrying costs are reduced.

¹⁵ CFSM, Volume 3, Chapter 11, Appendix D, #3.

¹⁶ Concept of Operations (CONOPS) for Obsolescence Management 4.3.2. Definition of ERN: “Application of materiel to the equipment it is used in is accomplished by the ERN system.” A line item with one ERN (i.e., one active link) is used to support only one type of equipment while a line item with two or more ERNs is used to support multiple pieces of equipment.

¹⁷ CONOPS for Obsolescence Management 4.3.2.2.

¹⁸ In this context, “active” indicates that an item has not been declared surplus.

Equipment platform and materiel managers indicated that they were reluctant to declare items surplus based on ERN information, as the item may have an unrecorded alternate application. Consequently, the review of items associated with obsolete ERNs tended to be *ad hoc* and undocumented. At the time of the audit, CMSG and the three EPMs were working collaboratively to improve the identification and review of line items associated solely with obsolete ERNs.

Review Frequency—Periodic Versus Ongoing Approach

In the past, DND has taken a project-based approach to inventory rationalization:

- An inventory rationalization study completed in 1996¹⁹ estimated that, of the Department's total inventory of \$8.55 billion, 20 percent or \$1.7 billion was excess to the total usage projected for the next four years. No documentation was found to confirm the extent of disposal as a result of the project.
- The “Blue-42” stream of the Materiel Acquisition and Support Optimization Project (MASOP) project²⁰ completed on 31 March 2006 was similarly focused on inventory rationalization. Again, the project identified surplus inventory; however, the extent to which identified materiel was actually disposed of was not clearly documented. In addition, the Blue-42 project utilized a stand-alone database to record surplus items. The results were not fully integrated into the CFSS (to facilitate removal of these items from holdings) and the database was not maintained after the closure of the MASOP project.

While such project-based approaches are useful to remediate current situations, they do not prevent recurrence of the situation as would a formal, ongoing approach to rationalization.

Materiel review is a lower priority for the interviewed equipment platform and materiel managers. Their main priority is to ensure platforms and weapon systems continue to be both serviceable and supported; however, this must be balanced with the need to complete periodic materiel reviews if surpluses and increased carrying costs are to be avoided.

Equipment platform and materiel managers place significant reliance on depot staff to highlight particular line items for review. As depots wish to optimize the finite amount of warehouse space available, the materiel suggested for review tended to be those slow-moving items which require significant storage space. These may not be the most appropriate items for review from an equipment platform and materiel manager perspective.

Documentation of Materiel Review

The reviewed policies do not provide direction or guidance on how to document the results of materiel reviews. Establishing standards for the documenting of results of materiel reviews would assist in ensuring that:

¹⁹ OAG 1996 Audit: Chapter 23 Audit of Materiel Management in the Federal Government http://www.oag-bvg.gc.ca/internet/English/parl_oag_199611_23_e_5054.html, paragraph 23.63.

²⁰ CFMS Acronyms list. “MASOP designed software for dormant stock review.”

- All items are reviewed over a given time frame;
- The underlying rationale for decisions is documented and thus transferable;
- Central visibility of all decisions is maintained; and
- Monitoring and oversight can be performed in a more efficient manner.

In addition, establishing standards for documenting the results of materiel reviews would aid the transfer of corporate knowledge in the event of staff turnover.

Recommendations

Ensure effective risk-based line item review by:

- Providing clearer guidance regarding frequency of reviews, and potential criteria for determining if materiel is surplus;
 - Establishing standards for documenting results of reviews; and
 - Providing on-going monitoring and oversight of the process.
- (OPI: ADM(Mat)/DGMSSC with input from DGAEPM, DGLEPM and DGMEPM)**



Disposal Practices

The efficiency and timeliness of disposal practices should be enhanced through increased planning, improved disposal instructions and more efficient organization of disposal warehouses.

Planning for Disposal

Once materiel has been declared surplus and disposal instructions have been provided, the item should be prepared for sale, disposal or donation in an appropriate and timely fashion.

Prioritizing Materiel for Disposal. On a periodic basis, materiel identified as surplus in the CFSS²¹ is relocated from active inventory to a segregated disposal warehouse. Often, no criteria are applied to prioritize the items that should be relocated. When items were prioritized, it was generally based on their proximity to one another rather than on characteristics such as:

- Volume of space occupied;
- Length of time the item has been in a surplus state; or
- The method of demilitarization and disposal required.

Applying these types of criteria could improve the efficiency of the disposal process by more quickly freeing up warehouse space for active items; reducing associated interim costs (e.g., stocktaking and storage); maximizing revenue from disposal; and reducing disposal costs by ensuring all items to be disposed of in a similar fashion are available at the same time.

Prioritizing the Disposal Function. In comparison to issuing, picking and receiving of materiel, the disposal function has been a lower priority activity at the visited warehouses. This factor contributed to the accumulation of surplus materiel at the three visited sites.

During 2008/2009, 25 CFSD completed a CMSG-funded project that successfully led to the disposal of a significant amount of surplus materiel. If future accumulations are to be avoided, more attention needs to be given to the disposal function.

Timely Disposal Instructions

All CFSS items must be assigned a demilitarization code (DMC) indicating the type of demilitarization (e.g., removal or destruction of key components) required prior to disposal.²²

As at 13 January 2009, 12 percent of surplus materiel held at 7 CFSD and 25 CFSD had a DMC of “F”—i.e., “Demilitarize using specific instructions from the Technical Authority....”²³ In this case, depot staff must obtain the appropriate disposal instructions

²¹ Surplus items are those line items identified for disposal in CFSS.

²² CFSM, Volume 11, Chapter 3, Demilitarization codes (+DML).

²³ Ibid.

from the assigned equipment platform manager. The required information was not always readily available due to the requirement to ensure compliance with Controlled Technology Access and Transfer and International Traffic in Arms Regulations. Striving to provide timelier disposal instructions would improve efficiency of the disposal function.

Organization of Disposal Warehouses

A large portion of the items in disposal warehouses have been assigned a generic rather than a specific bin location. During site visits, an attempt was made to locate a sample of items which the CFSS indicated were located in the disposal warehouse. Very few of the items could be found in a reasonable time frame. As a result, it is difficult for warehouse personnel to efficiently locate items that require a similar method of demilitarization, or should the decision to declare an item surplus be reversed.

Elapsed Time Prior to Disposal

Materiel often awaits disposal for a significant period of time. As shown in Table 2, between 7 percent and 28 percent of line items as of 31 March 2008 had been awaiting disposal²⁴ for at least three years at the three visited sites.

Sites	Line items awaiting disposal as at FYE 2008	Length of time identified for disposal >1 year	Length of time identified for disposal >2 years	Length of time identified for disposal >3 years
7 CFSD	6,944	57%	29%	7%
25 CFSD	12,134	66%	49%	13%
CFB Halifax	924	39%	35%	28%

Table 4. Length of Time Awaiting Disposal. At the visited sites, many items had been awaiting disposal for more than three years.

At the time of the audit, a CFSS report which provides the age of disposal holdings was not readily available, and the length of time required for disposal was not tracked at any of the visited sites. This contributes to DND's retaining of surplus materiel for excessive periods of time.

Recommendations

Ensure efficient disposal of surplus materiel by:

- Providing clearer guidance for prioritization of disposal activities, considering parameters such as volume (capacity), and length of time an item has been in a surplus state. **(OPI: ADM(Mat)/DGMSSC)**
- Ensuring timely disposal instructions are provided for surplus items. **(OPI: ADM(Mat)/DGAEPM, DGLEPM and DGMEPM)**

²⁴ Based on line items in the CFSS with a stock classification code of "D."

Management Information and Performance Measures

Improving information integrity and developing additional performance measures would facilitate the management of inventory surpluses and disposal, and would allow for more informed materiel management.

Information Integrity

Accurate and complete information enables sound decision making. Improving the integrity of current CFSS information would allow materiel and equipment platform managers to place greater reliance on the information and to more quickly identify areas of risk. In some cases, such as re-order information, the completeness and accuracy of data is dependent on user input. In other cases, such as usage data, system capabilities need to be enhanced in order to ensure relevant information is available for decision making.

Re-order Information. Ensuring appropriate quantities of inventory are purchased is a key control to ensure that future surpluses are minimized. Determining the appropriate quantity requires consideration of several factors including usage rate, order lead time, and volume pricing considerations. The CFSS provides two fields to assist materiel managers in making procurement decisions: the ROP and the ROQ. When the ROP is set, the system prompts materiel managers to place an order when the quantity on hand decreases to this level. The ROQ is the suggested number of items to purchase.

Review of CFSS data at the three sites visited demonstrated that, for the majority of line items, the ROP and ROQ was not set:

- 74 percent of line items did not have an ROP;
- 62 percent of line items did not have an ROQ; and
- 62 percent of line items did not have either an ROP or ROQ.

Consequently, system information was not available to assist materiel managers in their procurement decisions, and they could not rely on system prompts to notify them when procurement action was needed. This may contribute to stock shortages. For example, at the three visited sites, the ROP had not been set for 68 percent of the line items with requisitions outstanding.

When the ROP and ROQ had been set, the quantity procured often did not appear to be based on this information. As of 30 June 2008, stock on hand for 69 percent of line items was greater than the ROP plus the ROQ.

Training provided to materiel managers emphasizes that incorrect settings can affect replenishment of district stock, satisfying warehouse requisitions, shipping costs and transfers of materiel between districts.²⁵ Additional efforts to ensure settings are complete and accurate would facilitate and improve the decision-making process.

²⁵ NICP Supply Manager Training Package, block 2, CFSS Item Management, DMPP training, September 2006, page 28.

Usage Information. While historical usage information cannot be used in isolation to predict future needs, it should be available to assist in this determination. Various system upgrades and inconsistent methods of information archiving have complicated the retrieval of usage information. Research can provide information relating to individual items. For example, depot staff had highlighted several situations where, based on recent issues, stock on hand greatly exceeded foreseeable usage. However, there was no apparent method of determining the total number of line items where the stock on hand, based on past usage, exceeds a set number of years' requirements.

Having ready access to relevant, reliable usage information could result in more informed procurement decisions. It would also allow line items with potential surplus holdings to be highlighted for further review. For example, while the report on dormancy can be used to highlight line items where there have been no issues for several years, a report does not exist which lists line items where the ratio of issues to holdings is exceptionally low.

Reporting Flexibility

At the time of the audit, there was very little capability to customize current CFSS WQT reports.²⁶ For example:

- The dormancy report is based on a defined time period of four years; there is no provision to either decrease or increase the time period considered.
- A filter cannot be applied to the dormancy report to include items solely under the responsibility of a particular materiel or equipment platform manager.
- While a report can be produced which lists unique line items associated with obsolete ERN it cannot be filtered to include only those line items with positive holdings.

In addition, equipment platform and materiel managers stated that to get a complete picture of holdings, multiple CFSS screens must be viewed and there is no method to compile this information together into one report. While system limitations do exist, in some cases equipment platform and materiel managers were not making full use of existing capabilities, and were not fully aware of the range of reports available using the CFSS WQT.

Enhanced Management Information

To address some of the information shortfalls, the Department is currently implementing the DRP application. This off-the-shelf application will be an add-on to the existing CFSS, and is expected to provide enhanced planning and forecasting capabilities. Some DRP reports will be “pushed” rather than “pulled;” that is, they will be generated automatically rather than only upon user request. This should help to ensure critical issues (such as missing data or items requiring review) are highlighted and resolved more quickly. As well, DRP incorporates comment fields which should facilitate monitoring corrective actions and decisions made. As with any system enhancement, the success of DRP will be dependent on the training provided, the accuracy and completeness of user-supplied data, and the degree to which system capabilities are used in decision making.

²⁶ At the time of the audit, the DRP application was not widely used.

Performance Measures

Having information in the form of performance measures to highlight key areas of risk is fundamental to ensuring improvement. Key measures should be determined and performance standards set. Both CMSG and DSCO have made progress in this regard:

- CMSG has been proactive in defining key performance measures which are applicable to the warehouse operations. They are actively monitoring the levels of high priority demands and stock shortages, and well as available capacity.
- Within ADM(Mat), DSCO has been tasked to develop reports to assist in measuring performance in the area of materiel management. To date, they have identified nine reports that will be used to monitor performance in areas of materiel management.

While these are positive initiatives, a more integrated approach, involving input from all stakeholders, would better enable the Department to monitor trends and highlight deficiencies and would ensure performance measures are appropriately focused on departmental materiel management priorities.

Recommendations

- To facilitate decision making, key inventory management information recorded in corporate systems needs to be monitored to ensure completeness and reasonableness. **(OPI: ADM(Mat)/DGMSSC)**
- Further develop key performance indicators and acceptable performance standards and monitor their achievement.
(OPI: ADM(Mat)/DGMSSC with input from CMSG)

Annex A—Management Action Plan

Surpluses and Disposal

CRS Recommendation

1. Ensure effective risk-based line item review by:
 - Providing clearer guidance regarding frequency of reviews, and potential criteria for determining if materiel is surplus;
 - Establish standards for documenting results of reviews; and
 - Providing on-going monitoring and oversight of the process.

Management Action

The DRP application is being implemented as a tool for the EPMs to improve their capability to monitor/analyze inventory trends and improve the ability to forecast operational inventory requirements. Monthly, as of May 2009, Supply Managers are provided with a listing of holdings that are in excess of the projected five-year forecast requirements. Supply Managers seek authority from applicable LCMMs to identify the items (or a portion) as surplus so they can initiate direction through the DRP/MIMS interface to identify the items for disposal. In addition, information on active ERNs is available on the DRP worksheet and users of the application can request status reports on RR items as well as any other information for which data is available in the DRP application. There is no longer a need to wait for periodic reviews as information is available when required and is now based on a work priority and/or resource availability basis. The DRP Project has identified the requirement to identify obsolete ERNs and they will be available in the worksheet by November 2009.

OPI: ADM(Mat)/DGMSSC with input from DGAEPM, DGLEPM and DGMEPM

Target Completion Date: DRP project completion/close-out is scheduled for March 2010 at which time all Supply Managers and LCMMs will be trained in the use of the new excess materiel management capabilities.

Management Action

DMPP will incorporate DRP within the materiel acquisition and support (MA&S) learning strategy and address the frequency, surplus criteria, results review, monitoring, and oversight policies, processes and/or standards gaps through the NICP WG monthly discussions and within the NICP policy portion of the CFSM. These gaps will also be looked at through the planned restructuring of the disposal policy which is to be developed in cooperation with DDSAL. DRP training was integrated into the Supply Manager course in September 2008, with an anticipated completion date of September 2009. LCMM DRP training commenced in February 2009, with a projected completion date of March 2010.

OPI: ADM(Mat)/DGMSSC with input from DGAEPM, DGLEPM and DGMEPM

Target Completion Date: DMPP 7 will address the policy gaps by March 2010.

Management Action

Ongoing monitoring and oversight of this process will be incorporated into the departmental MA&S performance management system, which will include a compliance verification function.

OPI: ADM(Mat)/DGMSSC with input from DGAEPM, DGLEPM and DGMEPM

Target Completion Date: DMPP 10 is finalizing the statement of requirement (SOR) for Stream 2a Supply Business Process Key Performance Indicators (KPI) for Depots and Bases/Wings (expected to be completed by March 2010) following which necessary standards regarding excess materiel will be promulgated for summer 2010. Once standards are published, DSCO will commence necessary oversight and reporting.

CRS Recommendation

2. Ensure efficient disposal of surplus materiel by:
 - Providing clearer guidance for prioritization of disposal activities, considering parameters such as volume (capacity), and length of time an item has been in a surplus state.
 - Ensuring timely disposal instructions are provided for surplus items.

Management Action

In September 2009, DMPP 5 will commence a review of the policies and procedures in cooperation with DSCO/DDSAL. A detailed review of the current procedures' technical documentation will be done. The model developed for MASIS implementation will also be reviewed. An action plan to update the existing guidance will be prepared. The most widely used technical guidance documents will be updated. The new governance structure for MA&S will be used to communicate the improved guidance and requirement for timely disposal instructions to the Life Cycle Managers and the other stakeholders involved in the disposal process.

A disposal strategy is under development. This strategy will support a more coherent management of overall disposal activities and investment decisions. It is anticipated that it will be ready by September 2010.

OPI: ADM(Mat)/DGMSSC

Target Completion Date: DMPP 5, in cooperation with DSCO/DDSAL, will have updated the disposal guidance and communicated the changes to the Life Cycle Managers and the other stakeholders by March 2010.

CRS Recommendation

3. To facilitate decision making, key inventory management information recorded in corporate systems needs to be monitored to ensure completeness and reasonableness.

Management Action

The introduction of the DRP application allows Supply Managers and LCMMs the ability to better judge the “completeness and reasonableness” of management information. Any irregularities identified are documented through a “trouble ticket” process to generate the needed corrections in the corporate systems. The development of additional performance measurements KPIs and standards will be included in the activities identified in Recommendation 1.

OPI: ADM(Mat)/DGMSSC

Target Completion Date: DMPP 10 is finalizing the SOR for Stream 2a Supply Business Process KPIs for Depots and Bases/Wings (expected to be completed by March 2010) following which necessary standards regarding excess materiel will be promulgated for summer 2010. Once standards are published, DSCO will commence necessary oversight and reporting.

CRS Recommendation

4. Further develop key performance indicators and acceptable performance standards and monitor their achievement.

Management Action

DMPP 10 is working with DMIS and supply stakeholders to deliver the next iteration of materiel management KPIs in Business Objects (Stream 2a). This stream is intended to address key inventory management information requirements. The initial SORs for these performance indicators were developed in concert with CMSG specifically for warehouse operations. Once the KPIs have been delivered, associated standards will be collectively set by stakeholders and subject matter experts.

Stream 2a will enable managers at all levels to monitor the performance of the supply chain on a global scale via the integration of all MA&S source systems' (MIMS, NMDS, DRP, MASIS, FMAS) data and compare achieved performance with the established performance standards. The new measurement outputs will enable managers to confirm and improve the performance of supply and distribution systems in all areas, including effectiveness, accountability, visibility, manageability and efficiency. Some of these indicators are expected to be beneficial in monitoring and assessing surpluses and disposal of DND and CF materiel.

OPI: ADM(Mat)/DGMSSC with input from CMSG

Target Completion Date: March 2010 for initial Stream 2a capability

Annex B—Audit Criteria

Objective

1. Assess whether adequate controls are in place to effectively and efficiently minimize surplus inventory and dispose of designated holdings.

Criteria

- Policies and procedures are adequate, coordinated, and practised:
 - Departmental policies and procedures are clear and comprehensive, and are regularly reviewed and updated to meet requirements.
 - Key indicators of surplus, including dormancy and exclusive attachment to a retired ERN, are used to identify and minimize materiel surpluses.
 - The inventory review practice is comprehensive, timely, in accordance with policy, and includes the RR.
 - Disposals are actioned in a timely manner.
 - Rationale to explain retention of materiel (that appears to otherwise meet criteria for surplus) is documented and is reasonable.
 - Staff have the necessary knowledge, skills and tools; specifically, adequate automated functionality exists and staff are aware and make use of the available tools to assist in surplus identification and minimization.
 - Authorities, responsibilities and accountabilities are clearly defined and designated staff consider the timely and effective review of stock for surpluses a mandatory component of their role.
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Objective

2. Assess whether related information used for decision making is relevant and reliable, and whether performance measures are in place to identify areas of risk.

Criteria

- Related inventory management information is accurately recorded in CFSS to assist in identifying, managing and minimizing surpluses of materiel.
- Performance measures related to the surplus identification and disposal processes have been developed and are regularly monitored; and corrective action is taken when performance is outside established acceptable limits.