National Defence Défense nationale

Chief Review Services

AUDIT OF MATERIEL SUPPORT TO CANADIAN FORCES DEPLOYED OPERATIONS

October 2002

7053-53 (CRS)

(Final Amendments 18 Oct 02)

Canada

SYNOPSIS

This report presents the results of an internal audit of materiel support to four Canadian Forces (CF) deployed operations from 1998 to 2001. The principal focus of the audit was to assess the effectiveness of the supply and movement of materiel to deployed Canadian contingents. ……. …… A further consideration was to assess management action relative to prior work conducted by the Office of the Auditor General (OAG) addressing materiel inventory controls for peacekeeping operations. AIA s.15(1)

The audit has resulted in a number of recommendations to improve the likelihood that international missions will be in timely receipt of spare parts necessary to operate their weapon systems. Principally, it will be necessary to ensure that initial estimates of parts required by individual missions are appropriate, that reasonable mission-specific response times are established for replenishment of required parts, that specific parts remain visible within the delivery process, and that inventories are well managed in the field. …….. …….. In this respect, Assistant Deputy Minister (Materiel) is developing a logistic performance measurement system specifically designed to improve support to deployed operations. The stock levels for deployed operations are also being examined. AIA s.15(1)

……. …… This has an impact on operational effectiveness, whether in theatre or domestically (due to the necessary robbing of weapon systems to obtain parts which are otherwise not available within required timeframes). These operational impacts are not always fully apparent given the resourcefulness of CF members in finding workarounds. ……. …… ……. AIA s.15(1)

The audit work supports efforts by the Joint Staff to investigate automated risk management tools to assist in the management of logistics support to operations. The audit also acknowledges the context related to funding limitations and stock-outs affecting national inventories of spare parts. A prior audit of National Procurement stressed the requirement for vigilance in ensuring that constrained funding is applied to highest and best use. ADM(Mat) is identifying the resources necessary to manage the large inventories of low-turnover and/or surplus materiel that must be minimized. The auditors also found it necessary to recognize that airlift capacity places additional emphasis on the importance of finely-tuned materiel support planning for deployed operations. Detailed plans are being developed to provide a commercial airlift surge capability.

With respect to the recommendations of the OAG, the Department has made a concerted effort to take pertinent action. However, as noted, improvement is still required in the tracking of materiel in transit. Efforts are being made to improve the interface between inventory and materiel distribution systems. ……. …… AIA s.15(1)

As a final note, there are steps that can and should be taken to improve the circumstances we observed. It is also apparent that, in many aspects, resource challenges continue to demand extremely high standards of management in order to deliver required results. More detailed management action plans and comments appear at Annex F to the report.

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RESULTS IN BRIEF

Summary of Findings

1. Defence Planning Guidance (DPG) clearly identified the composition of high-readiness task forces, response times and the duration that they were required to be self supporting ……. ……..as well as the time they should be sustained by national materiel support systems thereafter. It falls on operational planning staffs to develop an appreciation of limitations which may affect the actual response to this guidance. In this respect, this audit has focussed on materiel stocks and movement necessary to support these task forces. The audit criteria are targeted at achieving pertinent conclusions relative to risk management, control and information for decision making. In arriving at this assessment, we have also drawn upon prior audit work relevant to the topic at hand. AIA s.15(1)

> **"…with respect to materiel support to deployed operations, unwarranted, or at least undetected, risks persist beyond those which are directly/exclusively attributable to resource limitations."**

2. **Risk Management Strategies**. Much is done in the field to mitigate risk and to develop ongoing workarounds, including the cannibalization of weapon systems and other resourceful solutions to accomplishing assigned tasks. However, with respect to materiel support to deployed operations, unwarranted, or at least undetected, risks persist beyond those which are directly/exclusively attributable to resource limitations. These risks pertain to the lack of front-end assessment and articulation of mission-specific materiel scaling and delivery standards. They further pertain to the complexity of systematically assessing the incremental risks attributable to the addition of successive deployments.

AIA s.15(1)

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3. A prior internal audit of National Procurement, Materiel Reprovisioning (November 2000) reported a materiel inventory stock-out rate of ……. …… …… Insufficient holdings of critical stock is a key contributor to the gap between "required" and actual materiel delivery times as portrayed in Figure 1. A comparison is made of the actual median days – the 50 percentile distribution – for the receipt of materiel, relative to the time requested. To isolate the impact of the availability of the requested materiel/part, any delays while awaiting airlift have been factored out. AIA s.15(1)

4. Figure 1 is a conservative portrayal of the gap that exists between the stated date required for the delivery of materiel and its actual receipt. There were no performance standards specific to each mission. Accordingly, as a frame of reference, the audit team used an annual in-country performance baseline. The out-of-country delivery of materiel, excluding delay time at the airhead point of departure (see Table 1), was compared with this "standard". Although materiel was required more urgently for deployed operations, it was not delivered any faster. There are many reasons for this, the most notable of which is the lack of prioritization of competing demands for the same scarce resources. …… …… ……... AIA s.15(1)

5. Risk mitigation strategies for materiel support can be enhanced in the options analysis phase for new operations. This will require that logistics operational staff evaluate the availability and requirements (initial and sustained) for materiel specific to each new mission. In view of the complexities involved, we would anticipate that automated tools would be required to assess, and develop plans to mitigate, risks in providing support to concurrent operations. As was reported in the November 2000 CRS Audit of NP – Reprovisioning, there remains poor visibility of inventory levels to sustain the various fleets of equipment utilized by high-readiness task forces.

AIA s.15(1)

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"We have concern about the visibility of inventory holdings in theatre."

6. **Control Framework**. We have concern about the visibility of inventory holdings in theatre. While notable improvements have been implemented relative to the OAG observations in 1996, …… There have been noteworthy improvements in clarifying the roles and responsibilities of logistic headquarters and units, in training of personnel prior to deployment on operational missions, and in establishing unique deployed operation supply procedures. As well, advances have been made in instituting controls for the disposal of materiel in theatre once a mission has been completed. Still, more can be done. In particular, closer monitoring is required for: the inflated urgency of materiel demands; deficiencies in accounting for new materiel requirements procured in Canada and in theatre; and, the use of high-risk adjusting transactions relative to supply account balances. …….. …… While these adjustments did not necessarily represent losses or surplus assets, they did indicate that the record of operational materiel holdings was not reliable. Some of the adjustments represented correction of input errors and unforecast materiel receipts.

AIA s.15(1)

AIA s.15(1)

7. **Information for Decision Making**. Notwithstanding the availability of useful data, the absence of mission-specific standards for materiel support undermines the measurement of performance. Once such standards are developed, information systems exist within the Department to provide relevant data necessary to gauge the levels of performance. In formulating certain conclusions and recommendations, the audit team has used such data from existing systems. For example, the information contained in Resource Management Data System reports proved to be useful in indicating supply system performance. Unfortunately these reports were seldom used by logistics staff in the conduct of after-action analyses of deployed operations.

"Notwithstanding the availability of useful data, the absence of mission-specific standards for materiel support undermines the measurement of performance."

8. We further observed that some of the existing information systems do not provide the level of detail or visibility needed by task force personnel to effectively manage materiel. Movement personnel could not track in-transit materiel as the relevant Canadian Forces Supply System (CFSS) data had not been input into the National Materiel Distribution System (NMDS). Consequently, it was not possible to prioritize the movement of critical line items as they could not be identified in the backlog of containerized freight. Although the CFSS Upgrade project was to provide an automated interface between the NMDS and CFSSU, …… ……. There was also some ongoing concern about the capability of the deployed CFSSU module. Certain features of the module that is under development may not adequately satisfy user requirements. As well, it was observed that there are some problems with the communication links back to Canada that are necessary to interface with the enterprise systems.

AIA s.15(1)

"Movement personnel could not track in-transit materiel."

Main Recommendations

9. In addition to the detailed recommendations listed in Annex A to this report, the main recommendations are as follows.

Risk Management

10. It is recommended that J4 Mat/DG Log develop a computer-based risk assessment tool that draws on data from existing information systems to assist the analysis of risks and options in support of plans for deployed operations. This tool should also draw attention to macro-level issues affecting all deployments – especially deficiencies in operational stocks necessary to sustain high-readiness vanguard elements identified in Defence Planning Guidance.

Control Framework

11. It is recommended that the Materiel Group / J4 Mat ensure that mission-specific performance standards are established and monitored.

Information for Decision Making

12. It is recommended that:

a. the Materiel Group, in conjunction with ADM(IM), resolve integration problems between the NMDS and CFSS Upgrade and address the shortfalls in the CFSSU deployed module prototype; and

b. DCDS staff ensure adequate communication links are put in place to support materiel management and distribution.

Note: *The Materiel Group, in particular, has provided a comprehensive management action plan. Key among the cited initiatives is the development of a Logistic Performance Measurement System. We also encourage the investigation of automated risk management tools. Detailed actions, planned and taken, are described at Annex F to this report.*

BACKGROUND

Introduction

13. In May 1996, the OAG conducted an audit of Peacekeeping Operations. A follow-up audit was carried out in December 1998. Annex B provides a summary of the OAG recommendations and the Department's action plan. One part of the action plan called for the establishment of new inventory control procedures. These procedures were expected to ensure that materiel used on deployed operations was properly accounted for. DG Log requested CRS to assess the effectiveness of the new procedures as well as whether they are operating as intended. Subsequently, CAS requested that an assessment be performed respecting the adequacy of materiel provisioning practices for Op ECHO. In order to identify any systemic issues, CRS expanded the scope of the assessment beyond Op ECHO and included three other missions where CAS was not the primary force generator.

14. The audit examined materiel support to four CF deployed operations from 1998 to 2001. Late in the conduct phase of this internal audit, the team had access to the report prepared by the OAG in December 2001 on the Serviceability of In-Service Equipment. …… AIA
…… s.15(1)
……. This internal audit has added to this diagnosis, including certain specific causes for the delay in materiel support to Canadian contingents.

Audit Objectives

15. The primary objective of this audit was to assess the management of the provision of materiel support to CF deployed operations, including the control of, and accounting for, deployed materiel. The audit included the accountability relationships, policies, practices, support enablers, and information mechanisms. Based on preliminary interviews conducted with senior personnel at NDHQ (CAS and DG Log), sub-objectives included attention to the following:

a. the effectiveness of materiel delivery to support deployed land and air operations;

b. assessment of, control of, and accountability for, materiel provided to deployed operations; and

c. confirmation of the Department's action plan status regarding the 1996 and 1998 OAG audits of Peacekeeping Operations.

Audit Scope

16. The serviceability of major combat systems is a prime indicator of effective materiel support. It is dependent upon the timely availability of repair tools, equipment, and spare parts. While personnel certainly play a major role in serviceability rates, particularly maintenance personnel, this was not a prime consideration of this audit. The scope of this audit was limited to the supply and movement of materiel in support of deployed operations.

"The scope of this audit was limited to the supply and movement of materiel in support of deployed operations."

17. Outlined in Table 2 below are the four missions selected for audit. It was necessary for the audit team to have a set of completed missions that took place after the OAG audit follow-up of 1998, and a full record of documentation for that same set of missions. The "materiel value of inventory" on mission supply accounts does not include major equipment such as aircraft or ships. Also excluded are Op TOUCAN personnel on the Auxiliary Oil Replenishment (AOR) vessel and the CC 130 Hercules detachment personnel. See Table 2 below.

Mission (1)	Location	Dates	Materiel Value	Personnel
Op ECHO	Aviano, Italy	June 1998 to January 2001	$78 M	300
Op KINETIC	Kosovo	April 1999 to July 2000	$270M	1,450
Op TOUCAN	East Timor	October 1999 to March 2000	$14M	303
Op ECLIPSE	Eritrea	November 2000 to June 2001	$91M	475
		TOTAL	**$453.M**	**2,528**

Note: (1) Op PALLADIUM in Bosnia was excluded from the audit as it is still on-going.

Table 2: Audited Missions

Audit Criteria

18. Criteria were identified for the audit and were assigned a level of operational impact in order to develop an appropriate audit program - see Table 3. Criteria at Serials 3, 4 and 5 are characterized as having a relatively high level of operational impact on the Department if materiel is not provided to a deployed operation on time nor visible to the end user once delivered. The remaining criteria were considered to have a lower impact on operational effectiveness.

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Audit Methodology

19. The audit team employed the following techniques:

a. analysis of mission-related information contained in the Financial Management Accounting System (FMAS), CFSS, and NMDS, and the CF 18 Data Management System;

b. interviews with key personnel involved in the provision of materiel and equipment support to deployed operations both at NDHQ (J Staff, Director of Financial Operations (D Fin Ops)) and at the Area Support Unit (ASU) Montreal - 3 Canadian Support Group (3 CSG) and 4 Canadian Forces Movement Control Unit (4 CFMCU);

c. interviews with personnel responsible for relevant supply policy at NDHQ (DMMD);

d. interviews and a multiple choice E-mail survey with personnel directly involved in the deployed operations;

e. review of pertinent mission logistic, financial and supply related documentation maintained at NDHQ and at 3 CSG; and

f. sample testing of mission financial (FMAS) and supply (CFSS) transactions.

DETAILED FINDINGS AND RECOMMENDATIONS

Logistics Risk Assessment

Finding. ***For each potential mission outside of Canada, Force Generator staff engaged in a time-consuming, labour-intensive process of determining the logistics risk associated with each task force option. Much risk mitigation also occurs on an ongoing basis in the field. However, there is no overarching, computer-assisted analysis to facilitate the identification and assessment of materiel-support risks as new operations are added. Such analysis will also be affected by the lack of mission-specific performance standards for materiel support as well as the limited visibility of spares' inventories applicable to the requirements of specific missions and combat systems.***

20. The audit team has some concerns about the Department's capability to make sufficiently accurate risk assessments that involve materiel support to a high number of concurrent operations, a situation that existed in 1993 and again in 1999/00 – see in Figures 2 and 3. The CDS stated in his 1999/00 Annual Report: "The tempo of operations stretched the Canadian Forces. While the Forces were able to meet the demands of the year, it is a pace that cannot be sustained over time." Three of the audited missions took place during the latter peak period and were undertaken with little advance notice. …….. AIA s.15(1)
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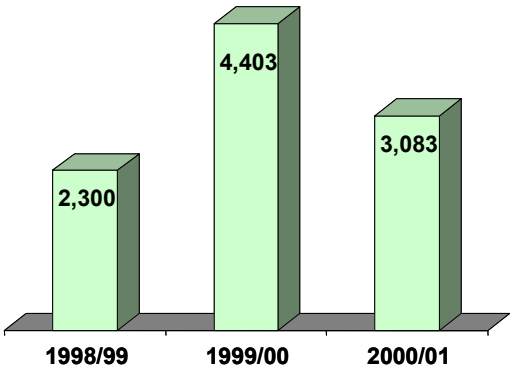

Figure 2: Personnel on Deployed Operations

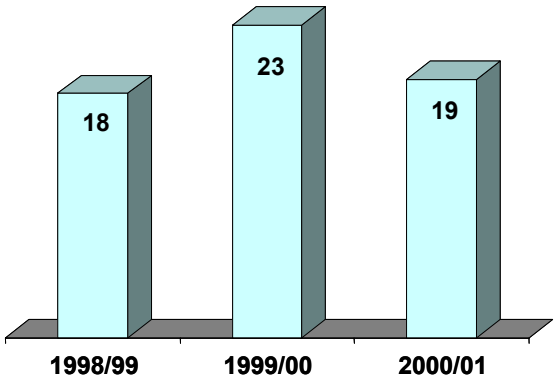

Figure 3: Number of Deployed Operations

21. The risks associated with the sustainment of deployed operations not only depends on self-supporting deployment scales for the initial …… but also the necessary inventory to sustain a joint task force ..……... Although there has been recent guidance that Canadian contingents will be "early in and early out", the DPG directed that a vanguard joint task force must be sustained indefinitely. To determine the sustainment resources for a potential mission, operational plans must include an assumed tempo of operations – a critical assumption with significant downstream operational risk. If the level of intensity is underestimated, there will be insufficient operational stock to sustain the task force. In particular, long procurement lead-time items such as specialized munitions and spares will be lacking. For vanguard task forces there is insufficient procurement lead time to acquire the ……... of operational stocks. The Department's performance measurement framework includes "inventory status" as a primary performance measure for operations and equipment sustainment capability. J4 staff are heavily involved in the risk assessments associated with the sustainment of potential CF deployed missions. However, their operational planning is impeded as they do not have an automated tool to determine current holdings by equipment type or to forecast the rate at which inventory might be consumed.

AIA s.15(1)

22. The issue of inventory levels for each of the operational fleets was raised in the November 2000 CRS Audit of NP – Reprovisioning. The ADM(Mat) action plan included the development of ORGVIEW – a prototype application that would roll-up inventory holdings by equipment fleet. This initiative has been replaced by another prototype application sponsored by J4 Mat – the Defence Total Asset Visibility (DTAV) project. Although DTAV has not yet warehoused ship or aircraft maintenance data, this application does show promise as a component of an automated logistics risk assessment tool. A comprehensive risk model should include weighted criteria such as the number of concurrent operations, lines of communication, strategic lift resources, equipment serviceability, spares inventory, ammunition stocks, procurement lead times, combat service support (CSS) personnel manning, the response time, and operational tempo (e.g., sorties per day for an air operation).

23. **Recommendation**. ***J4 Mat should assign high priority to the development of a comprehensive automated logistics risk assessment tool that utilizes data from existing information systems in the Department to assist in deployed operation option analyses.***

Provision of Materiel for Deployed Operations

AIA s.15(1)

24. **Timely Delivery of Materiel**. After-action reports and interviews with mission personnel reflected a gap between the expected and actual materiel delivery times. …… …… …… …….. To portray a standard baseline of materiel delivery, the satisfaction of domestic requirements was analyzed – a median gap of one day early between required delivery date and actual delivery. The domestic performance was compared to the deployed materiel delivery time, excluding the time materiel was held at the airhead waiting for weekly sustainment flights. Delivery timeframes for domestic delivery was far superior to those for deployed operations even though there was less demand urgency for the materiel required inside Canada. Figure 4 provides conservative estimates as it does not include CFSS process times for the demand or receipt of the materiel. A more detailed breakout of materiel issue and movement time by materiel priority code (MPC) for each mission is provided in Annex C to this report.

AIA s.15(1)

AIA s.15(1)

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25. In order to illustrate the delays which can be encountered for materiel that is more difficult to acquire, Figure 5 below depicts the average delivery time for materiel, rather than the median. ……. …… …… ……... This was unrealistic given that the movement of materiel was based on weekly sustainment flights. However, the deployed operations were competing for the same materiel required in domestic operational units and understandably used a significant proportion of urgent MPC demands.

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28. The audit team noted the relatively extreme measures taken by the Air Force to maintain the reported Op ECHO 96 per cent serviceability rate during the bombing campaign. …….. ……. To ensure ……. ……could be flown each day, the maintenance officer ensured that ……additional aircraft were on standby – one for each of the missions. AIA s.15(1)

29. The analysis of the record of assigned missions to the Canadian contingent at Op ECHO is portrayed in the table below. ……. AIA s.15(1)

Planned Sorties and Aborts	Number of Sorties	Per cent of Planned Sorties Aborted
Total Planned Sorties (less weather aborts)	702	
Aircraft maintenance ground aborts	24	3.4 per cent
Aircraft maintenance air aborts with escort	44	6.3 per cent
Total Aborts	**68**	**9.7 per cent**

Table 5: Analysis of Op ECHO Flying Missions

30. ……. AIA s.15(1)
The principal causes for the shortfalls in materiel provisioning are outlined in the following paragraphs.

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32. As was observed in 1999, there remains an excess stock of line items that will not be consumed after combat systems have reached the end of their life cycle. This observation was confirmed by a recent Directorate of Materiel Management and Distribution (DMMD) Warehousing and Distribution Network review that reported dormant stock of 70 per cent in second line accounts and 56 per cent at third line – showing no movement in four years. Subsequently, a recent CRS analysis determined that, over the same four-year period, 49 per cent of the CFSS line items had been dormant. In the past, CRS has recommended that the Department take advantage of the revenue that could be generated from the disposal of surplus assets to procure items of higher need. During recent work on behalf of the VCDS, CRS staff identified 7000 surplus line items, with a book value of $67M, for one weapon system – the items were subsequently disposed of.

33. **Supply Manager Staffing**. Initiatives, similar to those undertaken in the Air Force, to reduce surplus stocks could generate additional revenues for ADM(Mat) which in turn could be applied to the procurement of higher priority items – an option outlined in DAOD 1005-1. Such a rationalization of inventory is very labour intensive and is particularly difficult to do under the current hiring freeze for supply managers. The August 2001 hiring freeze is associated with the Supply Chain project and will be in effect until a detailed implementation plan has been developed. This is a further constraint on ADM(Mat) divisions to effectively manage their stock levels for deployed operations.

AIA s.15(1)

34. **Service Levels for Operational Equipment**. …… …… ……. The most frequently stocked-out items were found to be avionics, vehicle spares, vehicle accessories and packing materiel. …… …….. It was observed that 80 per cent of the stocked-out items were non-repairable in nature and were not dependent on repair turn-around times. With the exception of the Op ECHO stock-out rates, where 78 per cent were repairable items, the other missions had a lower stock-out rate than the annual CF rates. It was noted that when supply managers were faced with competing demands for the same materiel, they understandably gave a higher priority to deployed operations.

AIA s.15(1)

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35. To avoid stock-outs for critical weapon systems, a higher service level is set in the CFSS. …….. ……... It is the view of the audit team that these higher levels of service should also be assigned to the vanguard equipment as identified in the Defence Plan 2001 under the heading NP priorities. This would include such equipment as the Coyote reconnaissance vehicles, the light armoured vehicles, the Halifax class of frigates, the CC130 Hercules, and the Griffon helicopters. For peak activity periods operational stocks must be forecasted for a predicted operational tempo – not based on peacetime usage rates.

AIA s.15(1)

36. **Ammunition Stocks**. For one deployment, DCDS J3 operational staff had serious concerns regarding the Department's stock levels of a particular type of sophisticated munition. Audit of the mission records indicated numerous urgent requests by the task force commander demanding sufficient quantities of these munitions in order for the Canadian contingent to perform it's assigned role. Ultimately, arrangements were successfully negotiated for procurement from allied stocks.

37. Subsequently, the Department understood it would be necessary to address the operational shortfall created by the lack of modern ordinance. Nevertheless, a decision was made to delay procurement of this ordinance in order to take advantage of a future competitive tendering opportunity. …… …… However, an important consideration is the poor visibility that DCDS and J4 staff have of the ammunition stock levels for major weapons systems in high readiness units. Recent international developments have led to informal agreements with allies to continue to provide the particular ordinance in question. However, there is a level of risk that the Department accepted in not proceeding with the acquisition of it's own inventory.

AIA s.15(1)

"…materiel delays occurred as a result of the shipment of uncalibrated/untested equipment."

38. **Equipment Testing and Calibration**. Although not portrayed in our delivery time statistics, extended materiel delays occurred as a result of the shipment of uncalibrated/untested equipment. For example, batteries, aircraft wheels, weapon guidance systems, ejection racks, liquid oxygen containers, avionics test equipment and bomb mounting brackets were found to be unserviceable when received in theatre for Op ECHO. Although such items may be held as 'serviceable' depot stocks, they require testing or calibration prior to being issued to a deployed operation (see DCDS Instruction Chapter 13, Article 13.23) – otherwise, additional time and related shipping costs are incurred to return the item to Canada for the necessary testing/ calibration to be done. Although such materiel may be held in a supply depot as serviceable stock, it should be treated as a shelf life item or unserviceable until it is tested or calibrated.

39. **Recommendations***: Further to the recommendations included in the audit report on National Procurement – Reprovisioning, to minimize critical stock-outs for deployed operations, it is recommended that ADM(Mat):*

a. ***Undertake a review and assessment of stock levels for critical, long-lead time items for the vanguard equipment identified in the Defence Plan and develop specific plans to achieve the defined service level for the CFSS …… ……***

AIA s.15(1)

b. ***Determine the personnel resource requirements necessary to accomplish inventory rationalization, and give specific attention to the implications of the current hiring freeze for supply managers as has been directed in connection with the Supply Chain project.***

c. ***Undertake revision of stockholding policy for materiel that requires testing or calibration.***

40. ***It is further recommended that the Materiel Group provide DCDS with periodic reports on ammunition stocks for major weapon systems and that the Environmental Chiefs ensure that key decisions on the timing of major procurements are the subject of consultation with DCDS staff vis-à-vis risk implications.***

Strategic Airlift

41. The audit team observed that, understandably, airlift capacity was a major factor in the timeliness of materiel delivery for deployed operations. In fact, it was second only to the availability of stock. In this respect, we undertook an analysis for all of the materiel delivered to deployed operations through the airhead at Trenton. With the exception of Op ECLIPSE, most of the missions were supported by at least one sustainment flight per week. Accordingly, it was expected that Op ECHO and Op KINETIC materiel would remain in Trenton no more than four days on average – the worst case being a seven-day wait or the best case being the airlift of materiel on the same day it arrived in Trenton. However, as is shown in Table 8 below, the analysis of NMDS data indicated an average waiting time of materiel for military airlift ranged from ……..

AIA s.15(1)

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42. …… As shown in the table above, Op TOUCAN experienced the least delay as there was very little materiel movement required and commercial carriers were utilized. However, other attempts to utilize commercial carriers were less successful, principally due to lengthy clearance delays through customs. Op ECLIPSE was supported by sustainment flights every two weeks and competed with Op DANACA for the same airlift. This situation was viable only because it did not occur during one of the peak periods of concurrent operations.

43. One such peak period occurred as a result of the simultaneous execution of Op KINETIC, OP ECHO, and Op PALLADIUM. Although these three missions in Europe were supported by both CC130 Hercules and CC150 Air Bus fleets, ……
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AIA s.15(1)

44. **Recommendation**. We do not have a specific overall recommendation with respect to airlift limitations, other than to recognize the implications for concurrent operations. Airlift limitations must be considered in decisions regarding the scaling and achievable materiel performance standards for deployed operations. ***It is, however, recommended that interim/ contingency plans be developed in the event that commercial lift is necessary – this would include the development, by the Materiel Group/DGIIP, of expertise and strategies to anticipate and overcome/mitigate, customs difficulties.***

Lack of In-Transit Materiel Visibility

45. It was observed that Canadian contingents were unable to track high priority demands while the materiel was in transit. The NMDS does not have the capacity to track individual line items unless there is an input of the appropriate CFSS line item data. Only when items are issued from the two supply depots are the line item details automatically input into the NMDS. In the case of items issued from second-line accounts, the supply information must be manually input into the NMDS – a usual practice for high priority demands, such as a MPC OX (required in 24 hours) and a MPC 01 (required in less than seven days). Without the ability to track the individual high priority line items, it was not possible to prioritize the shipment of freight, backlogged at the airhead – all of which was classified as high priority for movement.

46. The analysis of all materiel movements to the four missions, shown in Figure 7, indicated that there were very few high priority line items visible in the NMDS amongst the total pieces of freight that were shipped. In-transit visibility of OX and MPC 1 items was particularly poor for Op KINETIC and Op TOUCAN at the peak of materiel movement activity in 1999/00. However, during a lower tempo of operations in 2000/01, an improvement was observed. Of the total number of freight pieces delivered to Op ECLIPSE, 55 per cent of the high priority demands were visible in the NMDS.

47. One of the objectives of the CFSS Upgrade project was to resolve the in-transit visibility problem with an automated interface between CFSSU and NMDS. Although the CFSSU project did deliver an interface program, it did not fully meet the requirements of DMMD. Unfortunately, the Project Manager found that there was insufficient funds in the CFSSU project to further the development of this interface. As of April 2002 the NMDS/CFSSU interface was still experiencing technical difficulties. We are concerned that this problem will not be fully resolved until a CFSSU follow-on project is approved and funded.

"…there were very few high priority line items visible in the NMDS amongst the total pieces of freight that were shipped."

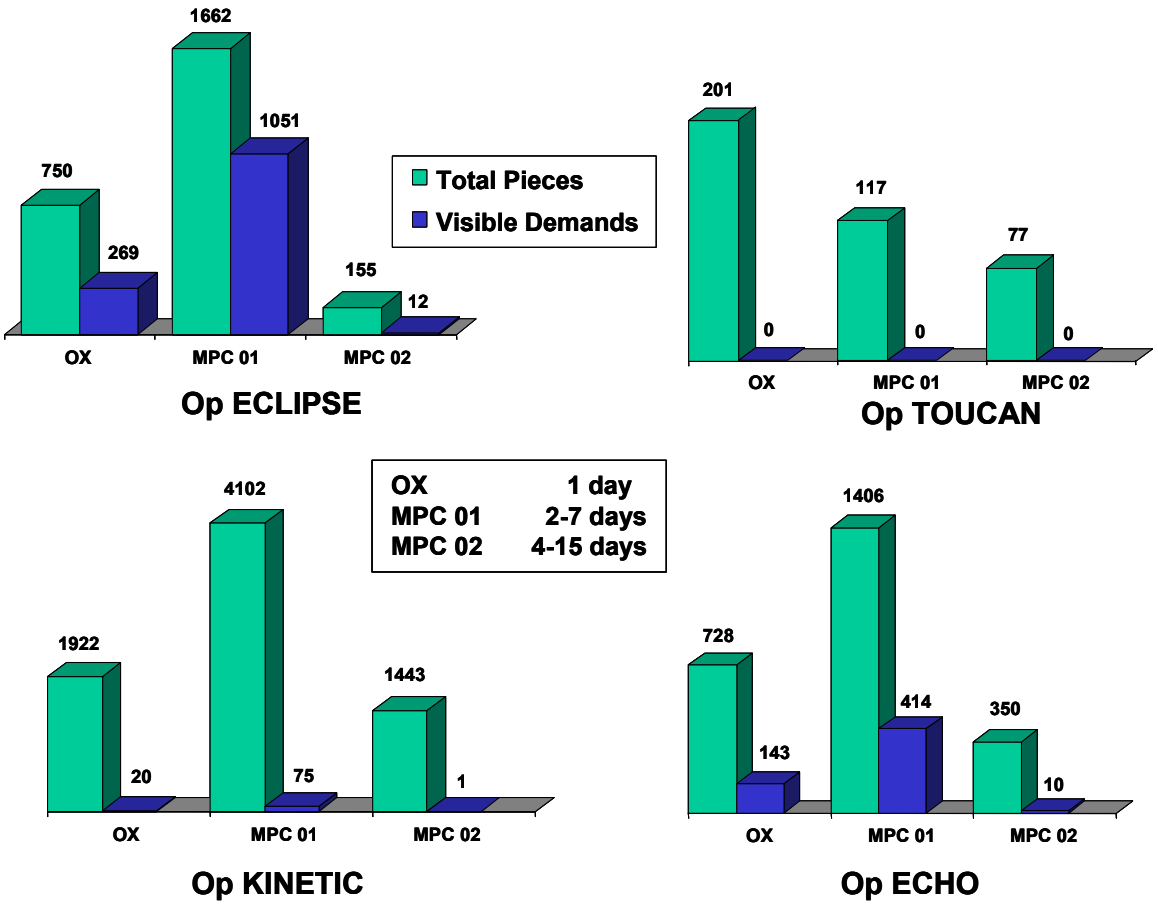

Figure 7: High Priority Items Visible in NMDS

48. **Recommendations. It is recommended that:**

a. ***ADM(Mat), in conjunction with ADM(IM), resolve the interface problem between CFSSU and NDMS to provide necessary in-transit visibility for high-priority materiel for deployed operations; and***

b. ***In the interim, J4 Mat develop procedures to ensure sufficient CFSS data is manually input into the NDMS for high priority items.***

Materiel Priority Codes

49. Our analysis of materiel demands for deployed operations identified excessive use of high priority demands. Canadian Forces Publication (CFP) 181 establishes specific supply procedures on materiel delivery timelines associated with each MPC as portrayed in Figure 8.

"…over-stated urgency assigned to materiel demands effectively undermined the Department's ability to set priorities for procurement and materiel movement."

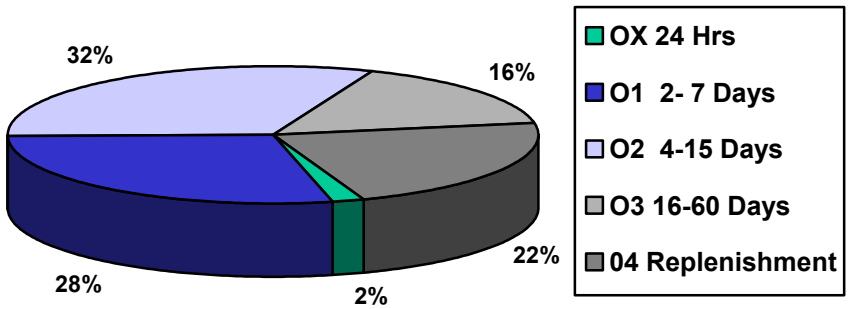

Figure 8: Annual Domestic CF Demand MPC Profile

For annual domestic materiel requirements, we determined that only 30 per cent of materiel demanded was required in less than seven days – 2 per cent of the demands required in less than 24 hours (MPC OX). Audit results for the use of MPCs for deployed operations, shown in Figure 9, are that the high priority MPCs ranged from 67 per cent to 99 per cent of demands. It was concluded that the over-stated urgency assigned to materiel demands effectively undermined the Department's ability to set priorities for procurement and materiel movement. This significantly contributed to the delay in the receipt of high priority requirements.

50. As is portrayed in Figure 9, some missions were particularly less than discriminate in the use of high priority demands. OX demands alone ranged from 87 per cent for one mission to 7 per cent for another. For two of the missions, Op ECLIPSE and Op TOUCAN, 99 per cent of the demands were high priority (MPC 0X or 01). Most of the OX demands associated with the Op TOUCAN mission occurred during the nine-day period between the warning order and the departure of the AOR from Canada. In accordance with the DCDS Instruction for Deployed Operations, materiel demanded with MPC 0X, 01, or 02 was to be moved by air transport – other MPCs by a more economical means such as sealift (MPC 03 or 04). With the exception of Op KINETIC, there was a reluctance by task force logistics staff to utilize MPC 03. There may be more flexibility in assigning different MPCs for deployed operations in CFSSU, once it is in place, as there are 12 different MPC options – five categories for OX alone.

"For two of the missions, Op ECLIPSE and Op TOUCAN, 99 per cent of the demands were identified as high priority (MPC OX or O1)."

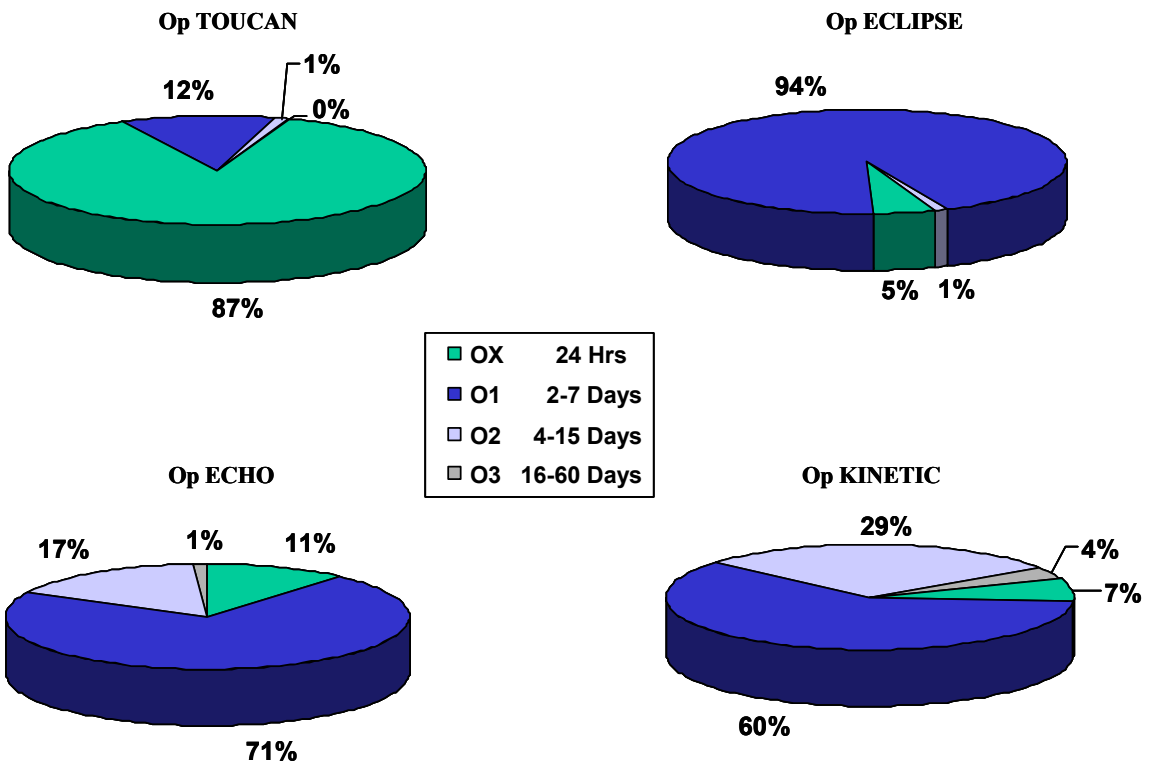

Figure 9: Demand History Profile for Deployed Operations

51. For the audited missions, 47 per cent of high-priority demands occurred in the first three months of the deployment. A high frequency of demands early in a mission could be avoided by increasing materiel deployment scales to permit a ……self-supporting capability to be met in accordance with the DPG. Deficiencies in the initial deployment scales were reported in several of the mission after action reports. It is acknowledged that new operational equipment spare part scales require considerable modification until adequate history of high usage items is established. As well, unit deployments scales are based on the table of organization and equipment (TO&E) for standard tactical units rather than the reinforced sub-units that have most recently deployed. AIA s.15(1)

> **"For the audited missions, 47 per cent of high-priority demands occurred in the first three months of the deployment."**

52. **Recommendations:**

a. ***J4 Mat review and revise the movement priority guidelines in the DCDS Instruction on Deployed Operations in light of the increased MPC options offered by the CFSSU;***

b. ***J4 Mat monitor the use of MPCs by specific missions and issue direction when priorities are routinely being over-stated to the detriment of sound materiel management; and***

c. ***CMS, CLS, and CAS review and validate the reasonableness of deployment scales in conjunction with DGMEPM, DGLEPM and DGAEPM for high-readiness units and sub-units to better ensure a self-supporting capability for ……..*** AIA s.15(1)

Mission-Specific Performance Measurement Standards

53. We did not find performance standards necessary to measure the effectiveness of materiel support to deployed operations. Although MPC delivery timelines exist in CFP 181, and are referred to in the DCDS Instruction for Deployed Operations, they cannot be realistically abided by. These timelines are based on domestic materiel requirements and are not readily applicable to international operations. For example, it is unrealistic to expect an OX demand to be delivered within 24 hours out of country when sustainment flights are weekly. Unfortunately, the CFSS is not designed to distinguish an OX demand for an internationally deployed operation. In the absence of performance standards, materiel support expectations were ambiguous. Consequently, the supply chain could not demonstrate accountability for the level of performance achieved. Performance measurement was a qualitative self-assessment that simply identified obvious logistic support failures and reported them as mission after actions.

"Performance measurement was a qualitative self-assessment that simply identified obvious logistic support failures and reported them as mission after actions."

54. It was noted that the Department has recently developed performance standards which can be applied to alternate service delivery initiatives. For example, the Supply Chain Project and the Air Force System Support Contract(s) have seen a high emphasis placed on performance metrics as an integral component of the terms of payment. Annex D indicates, for discussion purposes, a balanced-scorecard format as a basis for measuring logistic performance for deployed operations.

55. Three specific performance indicators related to materiel support have been identified; inventory status, demand satisfaction, and stock-out rates. There are a number of performance indicators that are routinely compiled in the RMDS such as: demand satisfaction reports; outstanding OX demands; stock-out referrals; frequency of high priority demands; and, hastener frequency. However, these reports were not reviewed on a regular basis by logistic staff and are not broken out by mission.

56. **Recommendation. It is recommended that J4 Mat:**

a. ***develop logistic performance standards specific to each deployed operation and common performance indicators similar to those in the RMDS; and***

b. ***promulgate post-operation performance measurement reports identifying any systemic materiel issues to senior management.***

Materiel Control and Accounting

Finding. ***A high number of inventory adjustments in the supply accounts for deployed operations are indicative of a significant level of inaccuracy in ongoing record keeping by and for the respective missions. In addition to posing a risk to the safeguarding of assets, a major consequence is that the capacity of mission personnel to identify the availability of items held in theatre is eroded.***

The observed inventory control deficiencies are, in large measure, due to the level of compliance with supply procedures, weaknesses in information systems/communication links, the sufficiency of training, and to poor documentation controls. We also observed an important correlation between the strength of mission inventory controls and the number of combat service support personnel deployed.

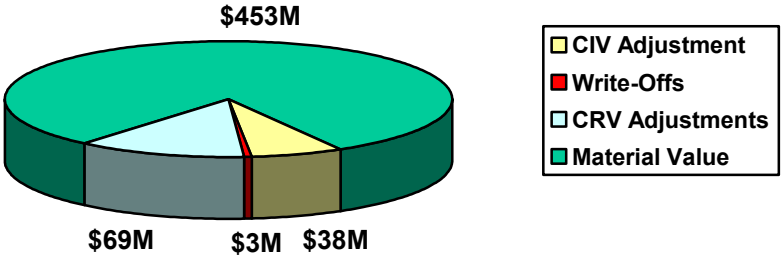

Figure 10: Materiel Adjustments for Audited Deployed Operations

57. **Supply Account Adjustments**. Although the materiel adjustments depicted in Figure 10 do not necessarily represent a surplus or loss of materiel, they do reflect materiel assets that were not visible for a period of time – 23 per cent of total asset value. In a benchmark with operational units in Canada, it was found that the number of adjustments were two to four times higher for deployed operations. Most of the downward adjustments were Certificate Issue Vouchers (CIVs) that represented a correction of an input error. Similarly, Certified Receipt Vouchers (CRVs) represent an upward adjustment of materiel. Most of these adjustments occurred as part of the stocktaking activities that took place during the changeover of logistic personnel when task forces were rotated, and during the 3 CSG mission account close-out process at Montreal. ……. AIA
…… s.15(1)
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58. While the OAG did not report on CRVs, they did report on CIVs and materiel write-offs in their 1996 report. Figure B-1 in Annex B shows a comparison between our internal audit findings and the OAG report. It indicates a decrease in the amount of materiel written off and a similar proportion of downward adjustments (CIVs). The primary concern is the operational risk associated with the inaccurate record of inventory levels in theatre. Without accurate record of the existing inventory there is a danger of logistic staff demanding materiel already in theatre or delaying the demand for materiel that needs to be in theatre.

59. For Op ECLIPSE, the most recent mission which we audited, the number of adjustments has diminished. Of the total materiel value, only 7 per cent was subject to adjustments. This compared favourably to those operational units in Canada that were benchmarked in the audit. The following paragraphs will examine the principal causes for the inventory control difficulties.

Combat Service Support Personnel

60. It was observed that the manning levels imposed on the task force, understandably favoured a high "tooth to tail" ratio, but often resulted in limited deployment of CSS personnel.

AIA s.15(1)

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For example, the planned TO&E for rapid reaction fighter squadron, similar in size to the Op ECHO task force, requires 16 Supply Technicians (Techs). However, the number of Supply Techs deployed for Op ECHO ranged from three to six personnel. Figure 11 above, demonstrates a correlation between the value of materiel adjustments and the proportion of Supply Techs in the TO&E. Clearly, there was more risk of poor materiel accounting if fewer CSS personnel were available to manage the inventory. Sup Techs on deployed operations had a higher workload which accounted for a larger number of discrepancies. They handled at least 50 per cent more receipts and issues than their counterparts in Canada. 5 Canadian Mechanized Brigade Group was used as the benchmark for this comparison.

"Sup Techs on deployed operations…handled at least 50 per cent more receipts and issues than their counterparts in Canada."

61. **Recommendation.** ***It is recommended that the DCDS, in consultation with J4 Mat, make use of the audit analysis to develop additional guidance/criteria to assist the determination of appropriate numbers of CSS personnel to accompany deployments. Such guidance should address peak workload which typically occurs in the early stages of deployment as well as at the end. A surge capability is required***.

Compliance With Supply Procedures

62. Weakness in materiel control and accounting was also attributed to non-compliance by CSS personnel, in Canada and in theatre, with standard supply procedures. A CF-wide shortage of CSS personnel has contributed to this. Notwithstanding, we observed an unwarrantedly large number of high risk supply transactions leading to materiel discrepancies. We also noted that a major portion of these materiel adjustments was done after mission close-out at 3 CSG, rather than in theatre prior to re-deployment. As well, materiel procured in Canada or in theatre was not accounted for in the Department's inventory and may have distorted the value of materiel losses on deployed operations.

> **"We observed an unwarrantedly large number of high risk supply transactions leading to materiel discrepancies."**

63. **High Risk Issue Transactions**. We noted that one third of all of the issue transactions for materiel associated with the four audited missions did not require a receipt by the receiving supply account – referred to as an issue with a "ZZ" advice code. Therefore, the supply account balance of the receiving account was automatically adjusted upwards to reflect receipt of the issue, even though the actual item(s) may, in fact, never have arrived. This type of issue transaction was normally acceptable for transfers between a unit or sub-unit's garrison account to it's mission account prior to deployment. However, it became problematic when materiel was issued after the unit had already left Canada. ……. AIA s.15(1)
…… These high-risk transactions occurred in spite of DMMD message, dated February 1999, to supply organizations to refrain from this practice. During mission close-outs, it was observed that 35,000 ZZ issues transferred materiel from deployed units back to Canada – often from several mission accounts to a single close-out account at 3 CSG. The audit team's concern was the loss of accountability for the individual mission account discrepancies that resulted from this practice.

AIA s.15(1)

64. **Supply Systems Work-Arounds**. The high proportion of CRV transactions – upward adjustments of supply account balances – was also attributable to materiel that was sent to task forces in theatre without proper issue instructions. Some deployed units expected to return with their own materiel and, accordingly, did not transfer the inventory to a mission account. Frustration with extended delivery times caused some task forces to contact their mounting base directly to demand materiel outside the normal supply chain. As a result, this materiel was identified, in a subsequent task force stocktaking, as surplus to the mission supply accounts.

65. **Unforecast Operational Requirements (UORs)**. A significant proportion of materiel procured specifically for deployed operations was not recorded in the CFSS inventory. A streamlined UOR process was in place to procure operational materiel not available in the Department's inventory and not previously identified as a requirement. ……..
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66. **Local Procurement In Theatre**. A number of high value items were procured in theatre by task forces but not recorded in the mission supply accounts. It was observed that three of the missions expended a combined total of $23M on local procurements. A directed audit sample of items that exceeded $1000 found that only 12 per cent of the procurements had been brought on charge. Subsequent to the stock-takings, materiel adjustments were done for local procurements, which likely contributed to the high proportion of CRV transactions. A more comprehensive audit of this concern was reported on in the CRS 1999 Local Procurement Audit.

67. **Certificate Issue Vouchers**. The audit team had certain concerns with the validity of some of the CIV transactions utilized for downward adjustments to reconcile mission account balances. In order to properly offset a previous receipt input error, a CIV transaction must cross-refer to the original receipt supply transaction. The directed audit sample of CIVs found that 32 per cent of the CIVs did not have a supporting receipt transaction cross-reference. Therefore, the actual value of deficient materiel requiring write-off could be higher than reported.

68. **Accountability**. Although the concern for accountability for materiel inventory is clearly articulated in the documentation reviewed by the audit team, there was no evidence of oversight action with respect to excessive materiel write-offs. The write-off of surplus and deficient materiel was clearly a command function and the financial thresholds for each level of command were outlined in the Queen's Orders and Regulations. A base or unit commander threshold was $40K. This threshold was reduced to $10K for a unit commander in a DCDS Instruction for Deployed Operations, contrary to what might have been expected when the operational tempo is high and the unit is not in garrison.

69. The DCDS Instruction for Deployed Operations holds the Task Force Commander accountable for all mission materiel under his/her command. However, the instruction has been difficult to implement at times because not all materiel management has been under the control of the task force commander. Consequently, there was reluctance to hold task force commanders solely responsible. This seemed to be a justifiable position. As an example, the DCDS was obliged to correspond with CAS in July 2000 regarding significant Op ECHO materiel discrepancies caused by the Wings in Canada. The DCDS found that Wings provided materiel without proper issue transactions and other air force assets that were not recorded in the CFSS inventory.

"Currently, the materiel write-off criteria for deployed operations is the same as for static units in Canada although there are significantly different factors in each scenario."

70. Given the financial limits on the write-off of materiel, there was a noticeable tendency for each level of command to avoid recommending high value write-offs to senior approval authorities. Commanders at each level showed reluctance to accept reports of write-off, until logistic staff had made every effort to verify the accuracy of reports and minimize the total value of the discrepancies. Such was the case with a recent Board of Inquiry (BOI) on Op TOUCAN materiel discrepancies. …….. AIA
…… s.15(1)
……... While the BOI found that the mounting base was partly at fault, it directed the task force CSS staff to reconvene and conduct a further reconciliation of surpluses and deficiencies. It should be noted that this direction was given 18 months after the mission close-out. It is the view of the audit team that mounting deployed operations with rapid response times for missions of short duration will lead to higher levels of materiel discrepancy – a cost of doing business. Currently the materiel write-off criteria for deployed operations was found to be the same as static units in Canada, although there are significantly different factors in each scenario.

71. **Recommendations.** ***To ensure that supply procedures are adhered to, it is recommended that J4 Mat:***

a. ***where possible, close-out mission supply accounts in theatre with 3 CSG augmentation;***

b. ***conduct rigorous data analysis of high-risk supply transactions such as "ZZ" issues, CIVs, and CRVs, prior to staff inspection visits (SIVs) to missions and 3 CSG; and***

c. ***include in SIV checklists the monitoring of materiel accounting of UOR and local procurements.***

72. ***It is recommended that the DCDS specifically re-affirm task force commander and Level 1 resource managers' accountability for deployed operation materiel, and review for reasonableness the criteria for acceptable write-offs.***

Information Systems

73. Visibility of assets was adversely affected by the numerous information systems, not all of them compatible, that task forces had to utilize to manage deployed operations materiel. There was no single comprehensive system that could accomplish all the necessary supply and movement monitoring functions. There were at least three information systems that task force logistic staff had to be familiar with; CFSS, NMDS, and the 3 CSG bar coding system. …… …… AIA s.15(1) …… The Mobile Military Communication Terminal (MMCT) was a far more reliable option for deployed operations, but the nine personnel required to man this equipment was seen to be excessive given the ceiling on mission manning levels. In order to optimize asset visibility, high quality communications are necessary to link to the Department's information infrastructure.

> **"In order to optimize asset visibility, high quality communications are necessary to link to the Department's information infrastructure."**

74. **CFSSU Deployment Module**. Part of the CFSSU project mandate is to improve the supply system for deployed operations. Although the CFSSU is to address the shortfalls of the CFSS, the audit team is concerned with the limited capabilities that are planned for the CFSSU deployment module. This module will be evaluated by operational units in field trials in 2002. Although the deployed module is still in the development stage, the audit team raised a number of concerns regarding the module's capabilities:

a. although connectivity of the deployed module to CFSSU was to be improved, it will still be dependent on the availability of the communication systems;

b. when communications are unavailable and the disconnected mode operation is selected, it cannot revert to a connected mode without closing the accounts in the deployed module;

c. the deployed module can operate with a Bar Coding system but it is incompatible with the current CFSS Bar Coding systems (e.g., 3 CSG, 25 Canadian Forces Supply Depot (25 CFSD) in Montreal and the warehouse in Halifax);

d. it is unclear how the transaction management trail (history) for the deployed module would be maintained; and

e. connectivity with other systems to provide information related to materiel management are still in development.

75. **Recommendations. It is recommended that:**

a. ***ADM(Mat), in conjunction with ADM(IM), address the capability shortfalls in the CFSSU deployed operation module currently under development; and***

b. ***DCDS ensure that adequate communication links for CSS information systems are provided.***

Pre-Deployment Supply Procedure Training

76. There is considerable risk associated with the supply procedure training required for deployed operations – in particular, the first task force deployed to a new mission. Although most supply procedures on deployed operations are similar to those processes in Canada, complete familiarity with the unique procedures in the DCDS Instruction for Deployed Operations is necessary. Pre-deployment training is required for materiel movement, disposal in theatre, CFSS support, supply account activation, stocktaking schedules, movement priorities, materiel write-offs, entitlements, equipment calibration, and procurement authority. Unfortunately, there are gaps in the training process. An audit team survey of logistic officers found that those who had served in Op ECHO and Op KINETIC had received instruction as follows: 17 per cent by formal course, 65 per cent by pre-deployment briefings, and 18 per cent by in-theatre post deployment briefing.

"Collective training for materiel support in Canada and out of country, was not aligned with materiel support for operational deployments."

77. The audit team was concerned that the timing of pre-deployment training was either too soon or too late to apply to the mounting phase of an operation. …… AIA s.15(1)
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78. Collective training for materiel support in Canada and out of country, was not aligned with operational deployment materiel support. Exercises were supported by a base concept rather than replenishment through the national logistics coordination center (NDLCC) or 3 CSG. Therefore, the deployed operation supply procedures were not routinely practiced in the Department. It is critical that high readiness units and associated national support elements (NSE) receive annual training and validation of these unique supply procedures. Training standards of NSE personnel may be the mandate of Joint Support Group once it is established.

79. **Recommendation.** ***It is recommended that Environmental Chiefs of Staff conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces.***

Materiel Documentation Controls

80. Oversight of materiel management for deployed operations requires joint staff to have complete records of the documentation that influences their area of responsibility. The audit team expected J4 staff to have a complete trail of UOR documentation in order to track the approval, procurement, delivery and accounting of the materiel. A complete set of UOR documentation could not be found with J4 desk officers. Although it was the responsibility of J8 staff to have a complete set of CF 152 Write-Off Reports, in order to roll-up materiel write-offs on a quarterly basis, the audit team found their records to be incomplete. The audit team also had difficulty in consolidating a complete management trail for each mission. Although, the National Archives were accessed for all mission correspondence, the documentation was not complete.

81. **Recommendation.** ***It is recommended that the DCDS ensure joint staff maintain all documentation relative to their area of responsibility, and at mission close-out, all documentation be centrally archived.***

OAG REPORT – DEPARTMENT ACTION PLAN STATUS

82. As a result of the 1996 OAG Report, the DCDS issued direction to implement the corrective actions – see Annex B. These corrective actions were included in the service paper produced by J4 Log, dated 22 May 1996 to address the shortfalls in the materiel support to CF deployed operations. The 1998 OAG Report acknowledged that some improvements had been made. As requested by DG Log Ops, this internal audit has made an assessment of the 12 major departmental corrective actions and quantified their success rate as shown in Figure 12.

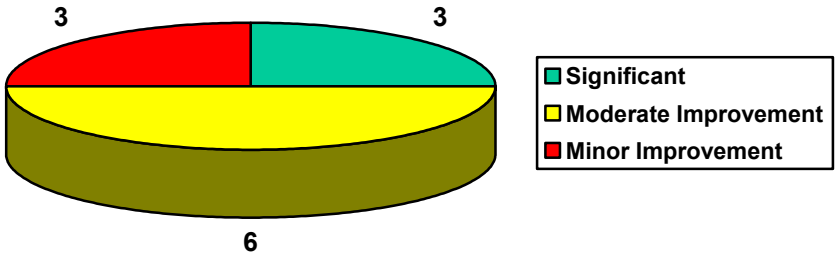

Figure 12: Status of Department's Action Plan On OAG Peacekeeping Audit

83. It was observed that considerable improvement has been made in the mounting procedures in the most recent deployed operation – Op ECLIPSE. Staff visits by the J staff to the assigned task force, prior to deployment, provided thorough briefings to logistic staff and highlighted the most significant procedural differences outlined in the DCDS Instructions for Deployed Operations. 3 CSG has played an increasingly more important role in effective deployments by assisting first line units and national support elements; preparing materiel for bar coding prior to deployment, conducting technical pre-deployment briefings to the mission supply techs, and receiving the materiel in theatre on behalf of the task force. At the time of the mission close-out, 3 CSG augmented the task force to close mission supply accounts and bar code materiel for return to Canada. A more detailed assessment of the Department action plan status may be found in Annex E.

84. There are still three Department initiatives where only minor improvements have been achieved to date. These were addressed in more detail earlier in this report. First, the audit team remains concerned with the lack of in-transit visibility of high priority demands and the impact it may have on operations. Second, the CFSSU deployed module under development may not meet essential capabilities necessary to maintain accurate inventory records and transaction history. Finally, the pre-deployment training for national support element supply procedures requires annual validation for those units and formations that are ear marked as high readiness task forces. It is expected that the establishment of the Joint Support Group will assist in this training shortfall.

ANNEX A

Summary of Detailed Recommendations

1. Most of the detailed recommendations listed below without at response time specified should be actioned in the short term (one to two years). In order to prioritize the management action plan, the audit team has indicated those recommendations that should be acted on immediately or in the long term (three to five years). It is recommended that:

a. DCDS

(1) ensure adequate communication links for CSS information systems are provided;

(2) in consultation with J4 Mat, make use of the audit analysis to develop additional guidance/criteria to assist the determination of appropriate numbers of CSS personnel to accompany deployments. Such guidance should address peak workload which typically occurs in the early stages of deployment as well as at the end. A surge capability is required;

(3) ensure joint staff maintain all documentation relative to their area of responsibility and, at mission close-out, all documentation be centrally archived; and

(4) specifically re-affirm task force commander and Level 1 resource managers' accountability for deployed operation materiel, and review for reasonableness the criteria for acceptable write-offs.

b. ADM(Mat)/J4 Mat

(1) in the interim, develop procedures to ensure sufficient CFSS data is manually input into the NDMS for high priority items;

(2) assign high priority to the development of a comprehensive automated logistics risk assessment tool that utilizes data from existing information systems in the Department to assist in deployed operation option analysis;

(3) review the movement priority guidelines in the DCDS Instruction on Deployed Operations in light of the increased MPC options offered by the CFSSU;

(4) monitor the use of Materiel Priority Codes (MPCs) by specific missions and issue direction when priorities are routinely being over-stated to the detriment of sound materiel management;

(5) develop logistic performance standards specific to each deployed operation and common performance indicators similar to those on the Resource Management Data System (RMDS);

ANNEX A

(6) promulgate post operation performance reports that identify systemic issues to senior management;

(7) when possible close-out mission supply accounts in theatre with 3 CSG augmentation;

(8) conduct rigorous data analysis of high risk supply transactions such as issues not requiring receipts and supply account balance adjustments, prior to staff inspection visits (SIVs) to missions and 3 CSG;

(9) include in SIV checklists the monitoring of materiel accounting of unforecasted operational requirements (UOR) and local procurements; and

(10) interim/contingency plans be developed in the event that commercial lift is necessary – this would include the development, by the Materiel Group/ DGIIP, of expertise and strategies to anticipate and overcome/mitigate, customs difficulties.

c. ADM(Mat)

(1) assess the personnel resource requirements necessary to accomplish inventory rationalization, and give specific attention to the implications of the current hiring freeze for supply managers as has been directed in connection with the Supply Chain project;

(2) undertake a review and assessment of stock levels for critical, long-lead time items for the vanguard equipment identified in the Defence Plan and develop specific plans to achieve the defined service level for the CFSS (i.e., 95% vice the 91% observed by this audit;

(3) consider a revision of stockholding policy for materiel that requires testing or calibration;

(4) in conjunction with ADM(IM) resolve the interface problem between CFSSU and NMDS to provide the necessary in-transit visibility for high priority materiel for deployed operations;

(5) in conjunction with ADM(IM) address the capability shortfalls in the CFSSU deployed operation module currently under development; and

(6) the Materiel Group provide DCDS with periodic reports on ammunition stocks for major weapon systems and that the Environmental Chiefs ensure that key decisions on the timing of major procurements are the subject of consultation with DCDS staff vis-à-vis risk implications.

ANNEX A

d. CMS

(1) conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces; and

(2) review the reasonableness of deployment scales in conjunction with DGMEPM for high-readiness units and sub-units to better ensure a self-supporting capability for ……. AIA s.15(1)

e. CLS

(1) conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces; and

(2) review the reasonableness of deployment scales in conjunction with DGLEPM for high-readiness units and sub-units to better ensure a self-supporting capability for ……. AIA s.15(1)

f. CAS

(1) conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces; and

(2) review the reasonableness of deployment scales in conjunction with DGAEPM for high-readiness units and sub-units to better ensure a self-supporting capability for ……. AIA s.15(1)

ANNEX B

OAG Audit on Peacekeeping Operations

1. The objective of the May 1996 OAG audit on Peacekeeping Operations was, "… to assess the quality of management practices and, specific to materiel support, to determine whether supplies and equipment to Canadian contingents on peacekeeping missions was provided with due regard to economy and efficiency". Under the general heading, "Control of Inventory and Equipment", the OAG noted that "some important CF supply system controls had broken down. The OAG report observed that the control procedures to ensure inventory supplied to missions is properly accounted for were not well communicated throughout the Department nor were they followed."

2. Overall, the OAG observed that the Department sent $822M in supplies and equipment to support the peacekeeping missions that came under their review. As portrayed in Figure B-1, Departmental records showed downward adjustments (Certificate Issue Voucher – CIV) of inventory balances totalling $67M described as not affecting the write-off register – materiel assets deleted from the inventory without the rigor of formal materiel write-off procedures. …… …… AIA …… s.15(1) …… …… ……....

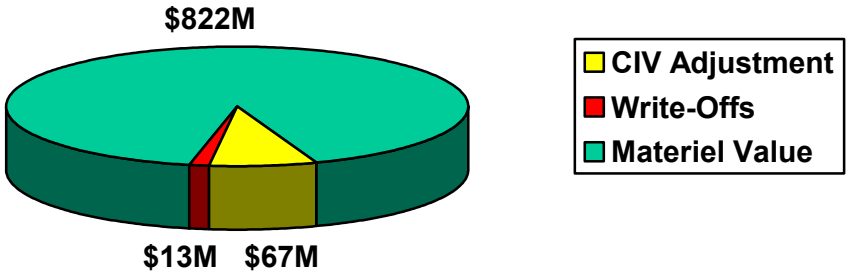

Figure B-1: Materiel Value/Adjustments Reported by OAG 1996

Departmental Action Plan

3. In response, the Department agreed with the OAG observations/conclusions and identified the following actions to improve supply management/inventory control:

a. validation of the existing supply policies and procedures;

b. implement the single focal point for the provision of effective logistic support to deployed operations outside of the Canada;

ANNEX B

c. the re-establishment of 3 Canadian Support Group (CSG) co-located with 25 CF Supply Depot (CFSD) and 4 CF Movement Control Unit (CFMCU) in Montreal;

d. address the deficiencies in the current CF Supply System (CFSS) as it relates to peacekeeping operations under the "umbrella" of the current CFSS Upgrade Project;

e. the development of the bar-coding system by 3 CSG for controlling stocks being prepared for loading and shipment in sea containers;

f. enhancements to total asset visibility in transit through the extension of the National Materiel Distribution System (NMDS) to include all units on peacekeeping operations and its integration with the CFSS;

g. improve training for peacekeeping missions (e.g., formal briefings/training to units by 3 CSG prior to their deployment);

h. validate and strengthen processes for monitoring and inspecting peacekeeping operations to ensure compliance to supply policies and procedures (e.g., program of Staff Inspection Visits (SIVs); and

i. continue the investigation of the reported supply account discrepancies.

4. **DCDS Service Paper**. The DCDS service paper was the result of discussions between DCDS, ADM(Fin) and ADM(Mat) to determine actions to be taken to prevent re-occurrences of non-accountability (File 3451-9 (J4 Log 22 May 1996)). The service paper presented three approaches to improving accountability on deployed operations as follows:

a. improving the effectiveness of existing accountability and review mechanisms;

b. implementation of a program of pre-deployment briefings to key operational and support staff, followed up with post-deployment inspection and necessary national assistance; and

c. on-going sensitization of both combat and combat support officers and non-commissioned members (NCMs), throughout their career, as to the special accountability requirements involved in support provided to deployed operations.

ANNEX B

The DCDS service paper formalized the departmental action plan to address the OAG report observations/conclusions. In particular, it stated that, "…the service paper recommendations are to be reviewed and implemented where appropriate, as soon as possible, with the Joint Staff monitoring follow-up action under your coordination."

5. Deputy Chief of the Defense Staff (DCDS) issued direction to Environmental Chiefs of Staff (ECSs) (File 3451-9 (DCDS 09 July 1996)) with the release of a service paper titled, "Improved Materiel/Financial Accountability on Deployed Operations". The DCDS service paper formalized the departmental action plan to address the OAG report observations and conclusions. In particular, it stated that, "…the service paper recommendations are to be reviewed and implemented where appropriate, as soon as possible, with the Joint Staff monitoring follow-up action under your coordination."

ADM(Mat) Departmental Status Report

6. In anticipation of the follow-up audit of their 1996 report on Peacekeeping Operations, the OAG requested in March 1998 a DND update on the nature and extent/level of action taken on OAG recommendations. In response, ADM(Mat) provided an update report in May 1998 as it pertained to materiel support to deployed operations as follows:

a. DCDS with significant input from ADM(Mat), promulgated national level Standard Operating Procedures (SOPs) (DCDS Instruction 1/95 Chapter 6) that provide direction and coordinating instructions to ensure materiel control requirements are well understood by commanders of deployed contingents;

b. J3 Staff, in collaboration with functional members of the J Staff, developed a comprehensive set of SOPs that addressed all aspects of materiel/inventory control for purposes of improving accountability;

c. A United Nations (UN) Logistics Officer's course was developed to assist Logistics Officers in the preparation and planning for UN peacekeeping operations; and

d. A current status was provided of the Department's five-point plan that addressed deficiencies in inventory control and supply management (e.g., re-establishment of 3 CSG, etc).

ANNEX B

OAG Follow-up Audit

7. In December 1998, the OAG reported on the follow-up audit of the observations/ conclusions contained in the 1996 audit. In their overall conclusion, it was noted that control over deployed materiel had been much improved. To illustrate the extent to which the Department had made efforts to regain control of deployed materiel the OAG made the following observations:

- the central support unit in Montreal (3 CSG) now has responsibility for all second-line items and also controls all Unforecasted Operational Requirements (UORs);
- the implementation of the bar-coding system by 3 CSG to control all stock and materiel flowing to each mission and the identification of the contents of all sea containers;
- after the first deployment to a mission, changes to the list of items required must go through an approval process;
- the involvement of supply personnel in the mission advance party to ensure orderly accounting and control over assets on arrival in theatre;
- the involvement of the Supply Directorate in the performance of mission SIVs subsequent to deployment to ensure full accounting of materiel and equipment sent to theatre and the follow-up and documentation of any discrepancies;
- implementation of better close-out and hand-over procedures between contingent rotations, as well as the extension of automated inventory management and control to deployed operations;
- improvements in training for supply functions on missions (e.g., 3 CSG pre-deployment briefings); and
- release of the DCDS Direction to Commanders of Operational Deployments (June 1998) that includes a chapter on logistics and a chapter on close-outs.

"In December 1998, the Office of the Auditor General reported that the control over deployed materiel had been much improved."

ANNEX C

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ANNEX D

Materiel Support to CF Deployed Operations Balanced Scorecard

Customer/Client

Objectives	Measurement
Right Support Customer satisfaction (NATO, UN, DCDS)	Satisfaction surveys or results of ops
Right Support Customer satisfaction (operators) - asset visibility/availability - quality of service	Demand satisfaction rates Equipment availability
Right Support Customer satisfaction (employee) - involved in the process - information tools	Number of complaints Attrition rate, sick leave

Resources Management

Objectives	Measurement
Right support Asset - Transfer to DCDS account - System accuracy and visibility	Unforecasted receipts High risk issue transactions
Right support Financial - Cost of mission	Budget versus real
Right support Control - BOI/Write off / Adjustments	% of errors % of adjustment $ of write off

Getting right things, at right time in right place, with right support, applying right rules, and all the right people.
By Alan Williams, ADM-Mat

Internal Business Process

Objectives	Measurement
Right things and right price Supply - conforming items as requested - economical purchase	Stock-outs Return of materiel not used on mission Standing Offers/Contract Splitting
Right time and right place Maintenance - repair cycle time - materiel requisition	Repairs in situe Turnaround time Serviceability rates
Right time and right place Movement and Transport - logistic response time by MPC - contractor delivery time	Delivery time Due-ins from the contractor Robbing rates

Learning and Growth

Objectives	Measurement
Right Rules Training - DCDS - Training : supply / UN course /	Number of adjustments Formal qualifications Policy/procedure revisions
Right People Values - Accountability/responsibility	SIV sampling of transactions Follow-up of SIV recommendations
Right People Leadership - Communication - Initiative	Timeliness of after action reports Identification of systemic issues Daily situation reports substance

Source: Robert Kaplan & Norton (Harvard University)

ANNEX E

Action Plan Assessment

Ser	CRS Assessment	Action Plan Reference	Department's Action Plan in Response to OAG Report	CRS Observations on Department's Action Plan Status
1.	Significant Improvement	Annex B Subpara 3I	Continue the investigation of the reported supply account discrepancies.	3 CSG makes considerable effort to reconcile supply accounts once a mission is closed out. Investigation of discrepancies are also pursued during rotation BOIs.
2.	Significant Improvement	Annex B Subpara 6b	J3 Staff, in collaboration with functional members of the J Staff, develop a comprehensive set of SOPs that address all aspects of materiel/inventory control for purposes of improving accountability.	Our review of the DCDS Instructions found that the logistic SOPs in Chapter 13 were very comprehensive. Since the draft 1998 DCDS Instruction there has been updates as recent as March 2000.
3.	Significant Improvement	Annex B Subpara 3c	The re-establishment of 3 Canadian Support Group (CSG) co-located with 25 CF Supply Depot (CFSD) and 4 CF Movement Control Unit (CFMCU) in Montreal.	We observed that 3 CSG is taking a more active role in mounting an operation, assisting rotations and supporting re-deployments to Canada.
4.	Moderate Improvement	Annex B Subpara 3a	Validation of the existing supply policies and procedures.	Although supply policy and procedures were validated as the DCDS Instructions were drafted, we have several recommendations to improve materiel support for deployed operations that will require revision of the current policies, practices, and procedures.

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Ser	CRS Assessment	Action Plan Reference	Department's Action Plan in Response to OAG Report	CRS Observations on Department's Action Plan Status
5.	Moderate Improvement	Annex B Subpara 3h	Validate and strengthen processes for monitoring and inspecting peacekeeping operations to ensure compliance to supply policies and procedures (e.g., program of Staff Inspection Visits (SIVs).	Although SIVs have been established, we recommend that more detailed supply transactions analysis be done prior to mission site visits in order to anticipate materiel support issues.
6.	Moderate Improvement	Annex B Subpara 3e	The development of the bar-coding system by 3 CSG for controlling stocks being prepared for loading and shipment in sea containers.	We found that the 3 CSG bar coding system is only able to be employed with 25 CFSD transactions and some missions that were provided with the 3 CSG bar coding system.
7.	Moderate Improvement	Annex B Subpara 6c	A United Nations (UN) Logistics Officer's course be developed to assist Logistics Officers in the preparation and planning for UN peacekeeping operations.	We found that the course only briefly mentioned the contents of the DCDS Deployed Operation Instruction Chapter 13 Logistics and only 17% of the deployed Logistics Officers received the training. The course is intended to train logistic staff in UN procedures – not Canadian deployed operation supply procedures.
8.	Moderate Improvement	Annex B Subpara 3g	Improve training for peacekeeping missions (e.g., formal briefings/training to units by 3 CSG prior to their deployment).	Although 3 CSG pre-deployment briefings were provided, not all key staff are included. The timing of the briefings is such that there is little opportunity to take actions required during pre-deployment phase.

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Ser	CRS Assessment	Action Plan Reference	Department's Action Plan in Response to OAG Report	CRS Observations on Department's Action Plan Status
9.	Moderate Improvement	Annex B Subpara 3b	A single focal point for the provision of effective logistic support to deployed operations outside of the Canada.	The National Logistic Coordination Centre (NDLCC) is clearly the focal point for materiel support at the NDHQ level. However, if task forces bypass NDLCC to contact other NDHQ OPIs the central co-ordination will be lost. The role of NDLCC will likely change a Joint Support Group becomes established.
10.	Minor Improvement	Annex B Subpara 6a	DCDS with significant input from ADM(Mat), promulgate national level Standard Operating Procedures (SOPs) that provide direction and coordinating instructions to ensure materiel control requirements are well understood by commanders of deployed contingents, and these requirements are adhered to.	Although there has been some improvement, we observed that a number of deployed operations personnel were not familiar with the DCDS Instructions for Deployed Operations. The instructions have been promulgated on intranet and are briefed by the joint staff to the task force prior to deployment. DCDS warning orders need to make reference to these instructions.
11.	Minor Improvement	Annex B Subpara 3f	Enhancements to total asset visibility through the extension of the National Materiel Distribution System (NMDS) to include all units on peacekeeping operations and its integration with the CFSS.	We observed mission dissatisfaction with asset visibility in transit. NMDS does not interface with CFSS and does not provide a detailed breakout of shipment contents. At the time of audit the CFSSU has also experienced technical difficulties with the NMDS interface.

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Ser	CRS Assessment	Action Plan Reference	Department's Action Plan in Response to OAG Report	CRS Observations on Department's Action Plan Status
12.	Minor Improvement	Annex B Subpara 3d	Address the deficiencies in the current CF Supply System (CFSS) as it relates to peacekeeping operations under the "umbrella" of the current CFSS Upgrade Project.	Our concern is that CFSSU interface with other materiel related information systems has not been developed yet. As well, the deployed CFSSU module has not yet been fully developed.

ANNEX F

Management Action Plan

Ser	CRS Recommendations	OPI	Action
1.	Ensure adequate communication links for CSS information systems are provided.	DCDS	The communication requirements for a mission are identified during the mission analysis and deployment planning efforts by the JSAT. The optimum solution is not always available when mobile terminals are already deployed and equipment or personnel are not available for a six-month operation. The utilization of alternate communications paths will take in to account all known factors. No further DCDS action required.
2.	In consultation with J4 Mat, make use of the audit analysis to develop additional guidance/criteria to assist the determination of appropriate numbers of CSS personnel to accompany deployments. Such guidance should address peak workload which typically occurs in the early stages of deployment as well as at the end. A surge capability is required.	DCDS	J4 Log identifies the CSS personnel requirements for a deployment as part of the TO&E development process. The number of personnel that can be deployed on a particular operation is not an open-ended figure. The CSS requirements are factored in with other competing personnel requirements and evaluated taking into consideration the existing limitations. Technical Assistance Visits are utilized to provide surge capability for limited periods. This process will accommodate future factors identified by J4 Mat as a result of the audit analysis. No further DCDS action required.
3.	Ensure joint staff maintain all documentation relative to their area of responsibility and, at mission close-out, all documentation be centrally archived.	DCDS	Direction pertaining to the archiving of documentation for deployed operations is contained in DDIOs chapter 13. The J4 Log representative will continue to reiterate the requirement during the staff coordination visit conducted prior to a deployment.

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Ser	CRS Recommendations	OPI	Action
4.	Specifically re-affirm task force commander and Level 1 resource managers' accountability for deployed operation materiel, and review for reasonableness the criteria for acceptable write-offs.	DCDS	The requirements, criteria, levels of write-off, and accountability are described in DDIOs. However, these items will continue to be stressed by the J4 Log and J3 Intl representatives during the pre-deployment SCV and the in-theatre Staff Inspection Visit (SIV).
5.	In the interim, develop procedures to ensure sufficient CFSS data is manually input into the NDMS for high priority items.	ADM(Mat)/ J4 Mat/ DMMD	Manual procedures have been developed and are in place to ensure sufficient CFSS dated is manually input into the NDMS. We will continue to refine the interface to make it more user-friendly. Lastly, periodic validation and monitoring of this application will be conducted through ECS inspection and J3 and J4 inspections of deployed operations.
6.	Assign high priority to the development of a comprehensive automated logistics risk assessment tool that utilizes data from existing information systems in the Department to assist in deployed operation option analysis.	ADM(Mat)/ J4 Mat/ Log Plans/ DTAV/ J4 Log Analysis/ DG Log	We recognize that there is a constant need to add new functionalities and tools and these must be pursued in priority based on their potential beneficial impact. The following two initiatives are being taken: a. The "Logistic Performance Measurement" application for deployed operations is being developed to enable us to assess the effectiveness of logistics support in all phases of deployed operations. The prototype was completed 31 March 2002. The validation phase is currently underway, and incremental implementation has commenced with full implementation targeted for Spring 2003. b. J4 Mat/DG Log will undertake an appraisal of logistic risk assessment tools that may be available for use.

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Ser	CRS Recommendations	OPI	Action
			In the longer term, the Joint Support Group (JSG) will be the centre of excellence. The JSG will support the projection and sustainment of expeditionary forces to operations (IOC 2004). The level of risk will significantly decrease as this centre of excellence gains experience in opening new theatres of operations.
7.	Review the movement priority guidelines in the DCDS Instruction on Deployed Operations in light of the increased MPC options offered by the CFSSU.	ADM(Mat)/ J4 Mat/ Log Ops	J4 Log Ops will review the Logistics Chapter (13) to the DCDS Direction for International Ops (DDIO). Completion of the review and revisions to Chapter 13 is expected by 31 October 2002. In each mission mounting, the Op Order Log Annex H will establish an anticipated Customer Wait Time (CWT) (issued through DCDS) that will detail expected delivery times for each MPC. On current ops, the policy for each theatre of operation will be reviewed by J4 Log to establish/tailor individual standards, and will be promulgated in applicable theatre orders.
8.	Monitor the use of Materiel Priority Codes (MPCs) by specific missions and issue direction when priorities are routinely being over-stated to the detriment of sound materiel management.	ADM(Mat)/ J4 Mat/ Log Plans/ Log Ops	ADM(Mat) is committed to developing the Logistic Performance Measurement for Deployed Ops system. The system includes performance indicators specifically designed to monitor the use (or misuse) of MPCs. The implementation of Logistic Performance Measurement is expected to be complete within FY 2002/03. Reports on MPC usage are available from both the legacy supply system and the CFSSU. J4 Log will examine excessive use of high priority demands in a deployed environment to avoid overloading the logistics pipeline.

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Ser	CRS Recommendations	OPI	Action
9.	Develop logistic performance standards specific to each deployed operation and common performance indicators similar to those on the Resource Management Data System (RMDS).	ADM(Mat)/ J4 Mat/ Log Plans/ DMMD 6	The Logistic Performance Measurement for Deployed Ops system will address this recommendation. The system will use common performance indicators with standards adapted to each mission and further adaptable as the mission evolves in time. For example, there will be different standards for locally procured items from a mission based in a non-combatant area (i.e., Op ECHO in Italy) versus items procured in a combatant area (i.e., Op APOLLO)). As well, standards will evolve for locally procured items from the start of a mission when the country is in total chaos to after many rotations as the country's economy is recovering (i.e., Op PALLADIUM). The implementation of the Logistic Performance Measurement for Deployed Ops system is expected to be completed within FY 2002/03.
10.	Promulgate post operation performance reports that identify systemic issues to senior management.	ADM(Mat)/ J4 Mat/ Log Plans/ DLBM	The Logistic Performance Measurement for Deployed Ops system will include performance indicators that are specifically designed to gather post operation information. The indicators will be developed and implemented throughout the 16 phases of the entire Performance Measurement project and are expected to be completed within the FY 2002/03.
11.	When possible close-out mission supply accounts in theatre with 3 CSG augmentation.	ADM(Mat)/ J4 Mat/ Log Ops	Although every effort will be made to close mission supply accounts in theatre, our experience has been that it is not normally possible. However, measures will be taken to have accounts closed within 120 days after mission closure. This has been incorporated into the Performance Measurement application, and will be monitored. Using Op ECLIPSE as an example, 10 of 31 first line accounts were zero-balanced but not closed. The MCT's focus of effort was to process all theatre material off theatre accounts first prior to addressing account closure issues. However, it should be stressed that if accounts can be closed once all material has been processed, they will be.

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Ser	CRS Recommendations	OPI	Action
12.	Conduct rigorous data analysis of high risk supply transactions such as issues not requiring receipts and supply account balance adjustments, prior to staff inspection visits (SIVs) to missions and 3 CSG.	ADM(Mat)/ J4 Mat/ Log Ops/ DMMD 2	SIV checklists will be amended to highlight the need to review "ZZ" transactions as part of mission inspections to ensure that the required accountability is maintained. DMMD will ensure that clear policies and procedures for transferring materiel directly onto an account without receipt action are detailed in the CF Supply Manual covering CFSSU Stream 2 support of deployed operations.
13.	Include in SIV checklists the monitoring of materiel accounting of unforecasted operational requirements (UOR) and local procurements.	ADM(Mat)/ J4 Mat/ DMMD 2	The UOR checklist will be amended to ensure material accounting action is completed.
14.	Interim/contingency plans be developed in the event that commercial lift is necessary – this would include the development, by the Materiel Group/DGIIP, of expertise and strategies to anticipate and overcome/mitigate, customs difficulties.	ADM(Mat)/ J4 Mat/ DLBM	DLBM does have plans and procedures in place to secure commercial lifts when necessary. …….. …… …… Certain delays will therefore continue to be a reality and we will have to face contingency/mitigating actions. For example, we are using alternate means where possible for the Op APOLLO mission.
15.	Assess the personnel resource requirements necessary to accomplish inventory rationaliza-tion, and give specific attention to the implications of the current hiring freeze for supply managers as has been directed in connection with the Supply Chain project.	ADM(Mat) COS	There has been a focussed and structured initiative underway to rationalize inventory. The first phase of the Inventory Rationalization Reduction Program (IRRP: 1994 – 99) resulted in a 30% reduction of inventory by volume. The second phase includes a "hub and spoke" inventory management strategy that is being worked on. We will continue to assess the personnel resource requirements in light of the current funding allotments.

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Ser	CRS Recommendations	OPI	Action
			There is some flexibility associated with the SCP hiring freeze. The guidance to managers indicated that they should not staff indeterminately unless there are compelling reasons. Managers were advised to consult with SCP on indeterminate staffing prior to exercising the due diligence required by the existing Departmental Vacancy Management Framework. All other modes of staffing are available to managers without any need for the consultation noted above. In addition, managers have normal access to contracted support to supplement shortfalls. In the final analysis, if managers judge that indeterminate staffing is the best course of action they are to include a statement in the letter of offer indicating this position could be affected by the SCP.
16.	Undertake a review and assessment of stock levels for critical, long-lead time items for the vanguard equipment identified in the Defence Plan and develop specific plans to achieve the defined service level for the CFSS …… ……..	ADM(Mat) COS	A review and assessment of stock levels and service level definitions will be done. Ongoing review will confirm the force structure thereby providing the future direction for key decisions and policies governing stock levels, service levels, personnel, inventory rationalization, reporting, and capital acquisition. As well, the upcoming development of a comprehensive Long Term Capital Equipment Plan will make more visible a consideration of equipment life cycle and supply management issues, such as operational stock availability, for Vanguard equipment.
17.	Consider a revision of stockholding policy for materiel that requires testing or calibration.	ADM(Mat) COS	A revision of the stockholding policy will be undertaken.

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Ser	CRS Recommendations	OPI	Action
18.	In conjunction with ADM(IM) resolve the interface problem between CFSSU and NMDS to provide the necessary in-transit visibility for high priority materiel for deployed operations.	ADM(Mat) NMDS/ PMO	The CFSSU interface is now in production and asset visibility will be enhanced with the implementation of the Defence Total Asset Visibility (DTAV) system. The interface will be implemented in July 2002. MMEP will look at improving the interface between NMDS and CFSSU to ensure all necessary information is shared.
19.	In conjunction with ADM(IM) address the capability shortfalls in the CFSSU deployed operation module currently under development.	ADM(Mat) DMMD 2/ PMO	The PMO CFSSU is conducting a pilot of the deployed operation module with CMS. It is installed on laptop computers on two ships. PMO efforts are focused on replacing the laptops with servers onboard. Preliminary evaluation of the first two ships is very positive. DMMD will assume responsibility for the production version of deployed CFSSU in August 2002 and will complete the rollout to all ships. The full corporate CFSSU capability will be available to all deployed operations where communications are available.
20.	The Materiel Group provide DCDS with periodic reports on ammunition stocks for major weapon systems and that the Environmental Chiefs ensure that key decisions on the timing of major procurements are the subject of consultation with DCDS staff vis-à-vis risk implications.	ADM(Mat) COS	These reports are routinely prepared and will be made available to DCDS. Admittedly, the current focus of ammunition reporting is to meet the force generation information needs of the ECSs but the need for DCDS awareness, from a force employment perspective, is understood and agreed. As well, it is our understanding that the VCDS is planning a review of ammunition requirements and levels to enhance senior level visibility of ammunition issues.
21.	Conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces.	CMS	The Navy will conduct a review of training in light of growing requirements to support joint operations. The findings of that review will be used to develop responses to any shortcomings in training that are identified.

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Ser	CRS Recommendations	OPI	Action	
22.	Review the reasonableness of deployment scales in conjunction with DGMEPM for high-readiness units and sub-units to better ensure a self-supporting capability for …….	CMS	Ongoing review of the ships spare holdings will continue and new requirements will be met within the limits of available resources. The Maritime staff is concerned that resource limitations will impose arbitrary ceilings on the quantity of spares required.	AIA s.15(1)
23.	Conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces.	CLS	As per CFP 300 (8), CLS, as the force generator, conducts a confirmation exercise, which is an assessment of the collective performance of a tactical grouping against a specific Battle Task Standard (BTS) or group of BTS. The purpose of validation is to verify that the training system has adequately prepared soldiers to perform the operational task or to meet specified Army goals. Both will occur during the annual Brigade Training Event (BTE). The first BTE will take place in 2003 and details on this exercise will be available this fall as plans are finalized.	
24.	Review the reasonableness of deployment scales in conjunction with DGLEPM for high-readiness units and sub-units to better ensure a self-supporting capability for …….	CLS	In today's security context, it is not acceptable for deployed operations to still be adversely subjected to "at-home" constraints and restraints which may effect actual mission accomplishment; the unavailability of repair parts (for whatever reason) for mission critical equipment and battle winning weapon systems should no longer be tolerated. DGLEPM will continue the "Plan Expert" initiative to track the usage of spares on deployed operations.	AIA s.15(1)

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Ser	CRS Recommendations	OPI	Action
25.	Conduct annual validation training for deployed operation supply procedures for vanguard/high readiness task forces.	CAS	1 CAD HQ has agreed that A4 Supply will, in consultation with J4 Log, DMMD, A4 Coord, and A3 Eval, develop a supply-training package to be given to both supply personnel and the senior account holders in each of the Vanguard forces. This training can subsequently be validated during the annual Operational Assessment for each Vanguard package. The requirement for this training will also be directed in each of the Contingency Op Plans.
26.	Review the reasonableness of deployment scales in conjunction with DGAEPM for high-readiness units and sub-units to better ensure a self-supporting capability …. …….	CAS	…… AIA s.15(1)