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## Minor Warship Auxiliary Vessel In-Service Support Contract Audit

January 2010

7050-44 (CRS)



Canada 

## **Caveat**

This audit is not intended to assess the performance of contractors; rather, it is an internal assessment of processes and practices within the Assistant Deputy Minister (Materiel) organization.

This audit represents a high level of assurance.



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## **Acronyms and Abbreviations**

AC	Accountability
ADM(Mat)	Assistant Deputy Minister (Materiel)
ASC	Audit Services Canada
AV	Auxiliary Vessel
CA	Contracting Authority
CF	Canadian Forces
CFS	Citizen-Focused Service
CHI	Contractor-Held Inventory
CM	Corrective Maintenance
CPI	Cost Performance Index
CRS	Chief Review Services
DID	Data Item Description
D Mar P	Director Maritime Procurement
DMCM MWS/Aux	Director Maritime Class Management Minor Warship/Auxiliary
DMG Compt	Director Materiel Group Comptrollership
DMSS	Director Maritime Ship Support
DND	Department of National Defence
DTA	Delegated Technical Authority
EVM	Earned Value Management
ISSC	In-Service Support Contract
ISS	In-Service Support
FY	Fiscal Year
MCDV	Maritime Coastal Defence Vessel
MEPM	Maritime Equipment Program Management
MIS	Management Information System
MMF	Monthly Management Fee
MOG	Maritime Operations Group
MWAV	Minor Warship Auxiliary Vessel
OPI	Office of Primary Interest
PCRA	Project Complexity Risk Assessment
PM	Preventive Maintenance



PMBOK	Project Management Body of Knowledge
PPL	People
Proc O	Procurement Officer
PSV	Public Service Values
PWGSC	Public Works and Government Services Canada
QHM(H)	Queen’s Harbour Master (Halifax)
RA	Requisitioning Authority
RFP	Request for Proposal
RM	Risk Management
RMP	Risk Management Plan
RP	Results and Performance
SOA	Standing Offer Agreement
ST	Stewardship
TA	Technical Authority



## Synopsis

As part of an ongoing effort to improve departmental contract management practices, Chief Review Services (CRS) completed an analysis<sup>1</sup> of 15,000 active contracts to identify contracts that would benefit from further review. The Minor Warship Auxiliary Vessel (MWAV) In-Service Support Contract (ISSC) was one of the contracts identified. As the value of this contract represents just over 1 percent of all service contracts, the MWAV ISSC management practices cannot be considered representative of Department of National Defence/Canadian Forces (DND/CF) contracting practices.

The purpose of the original contract was to provide in-service support (ISS) for 12 Maritime Coastal Defence Vessels (MCDV) with a plan to increase the scope by 32 auxiliary vessels (AV). The services provided by the vendor include project management, maintenance, systems engineering, logistics, documentation, and inspection support. The audit raised issues that will benefit the planning and negotiations for the follow-on contract to be awarded in 2010.

Several areas were noted where improvements could be made in the future management of this contract. For instance, to ensure costs are kept to a minimum, DND should ensure that |||||||||||||||||||||||||||||||||||||||| In addition, DND will now implement risk-smart measures to reduce the risk of cost increase and enhance the payment approval process. The implementation of such measures will ensure that costs are kept to a minimum. The management action plans in response to the audit recommendations are sound, and the Departmental Audit Committee is confident that they will address the improvements needed for the remainder of the contract and the follow-on contract. In addition, the Department will monitor progress made in implementing the management action plans and will undertake an audit follow-up if warranted.

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<sup>1</sup> CRS *Risk Analysis of Operations and Maintenance Contracts*, April 2007.  
<http://www.crs-csex.forces.gc.ca/reports-rapports/2007/113P0714-eng.asp>.



## Results in Brief

To identify contracts that would warrant further review, CRS conducted an analysis<sup>2</sup> on 15,000 active contracts. The results of the analysis indicated that the MWAV ISSC warranted further review.

As the value of this contract represents just over 1 percent of all DND service contracts, the observations and results from this audit cannot be considered representative of DND/CF contracting practices. Some recommendations in this report will benefit the management of the follow-on MWAV ISSC.

The initial four-year contract was awarded in June 2002 to provide ISS for 12 MCDVs with options for four additional one-year periods to extend the contract to 2010 and yielding a total contract value of \$239 million.<sup>3</sup> As planned, the scope of the contract was increased to include 32 more AVs for a total of 44 vessels.<sup>4</sup>

### Overall Assessment

- Implementing additional risk management, governance processes and internal controls could improve the administration of the MWAV contract.
- More information should be required from the vendor to support payments and monitor performance.
- Since most of the MWAV work ||||| there is a need for more visibility of ||||| related costs.

## Findings and Recommendations

### Value for Money Oversight

Although the contract requires that an audit of the monthly management fees (MMF) be conducted<sup>5</sup> for each of the four batches of AVs, |||||

The CRS audit team reviewed a sample of maintenance tasks and found that there was also a |||||

<sup>2</sup> Ibid.

<sup>3</sup> All numbers in this report exclude taxes.

<sup>4</sup> The contract Request for Proposal (RFP) did include a forecast of scope increase.

<sup>5</sup> The MMF covers the project management services of the prime contractor performed by approximately |||||



|||||

It is recommended that a request for an MMF audit be undertaken in accordance with the contract. For the follow-on MWAV ISSC, |||||

**Certification of Payments**

|||||

It is recommended that risk-based sampling of |||||

**Material Management**

Improvements can be made in the oversight of contractor-held DND inventory with a reported value of nearly ||||| Although the vendor is required to provide all material transactions to DND every six months, the contract ||||| As well, inventory reports are not being requested by DND resulting in contractor-held inventory (CHI) not being included in the departmental financial statements.

It is recommended that oversight of CHI be improved and the amount of holdings be reported in the DND financial statements.

**Task Management Efficiency**

Task management efficiency could be improved with a firm price basis of payment for preventive maintenance (PM), risk-based approval thresholds and staff augmentation. Currently, DND approves nearly ||||| individual PM tasks annually for the MCDV class, many of which are ||||| To speed up the approval process, risk-based task approval thresholds could be increased at the delegated technical authority (DTA) or technical authority (TA) level, thus allowing for more scrutiny for high-value tasks than low-value tasks. The approval process could be further streamlined using a negotiated firm price for PM work based on historical cost data.

It is recommended that consideration be given to a fixed-price PM baseline for the follow-on contract where historical costs are available and best value is assured in |||||



## Vendor Reporting

||||| In addition, it is difficult to manage performance such as schedule slippage in those instances where |||||

It is recommended that ||||| and that measures be taken to ensure that |||||

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

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## Introduction

### Background

In 2007, CRS conducted an analysis of 15,000 contracts to identify those operations and maintenance contracts that could warrant further review. The MWAV ISSC is one of four contracts identified.



**Figure 1. The Maritime Coastal Defence Vessel.** These vessels provide the Navy with the capability to perform maritime coastal surveillance missions.

The initial four-year \$70-million contract was awarded in June 2002 to provide ISS for 12 MCDVs (see Figure 1). The services provided by the vendor include project management, maintenance, systems engineering, logistics, documentation, and inspection support. At the time of the original contract award, it was anticipated that the scope of the contract would expand to a total of 44 vessels, including 8 patrol-class training vessels, 11 tugboats, 6 barges, and 7 other vessels. The original contract included four option years—worth \$169 million with the additional scope—that have been exercised, thus extending the contract to March 2010.



## **Objectives**

The objective of this audit was to assess the adequacy of risk, governance, and control processes in place to administer the MWAV ISSC.

## **Scope**

- Management of the current MWAV ISSC;
- The planning for the follow-on MWAV ISSC; and
- Expenditures to date totalling ||| up to April 2009.

The audit of ||| was out of scope.

## **Methodology**

- Data Analysis—Financial Managerial Accounting System and MWAV Management Information System (MIS);
- Site visits: end-users Esquimalt and Halifax;
- Review of contract documentation, task approvals, and vendor reports;
- A sample of \$55 million in progress claims; and
- Interviews with key staff in Director Maritime Ship Support (DMSS), Director Maritime Procurement (D Mar P), and Director Material Group Comptrollership (DMG Compt).

## **Audit Criteria**

The audit criteria and assessments are available at [Annex B](#).





|||||

**Task Amendment**

||||| Although there was detailed documentation to support individual task amendments, it would be beneficial at a macro level to be able |||||

**Preventive Maintenance to Corrective Maintenance Cost Relationship**

An analysis of the ISSC maintenance work performed over a four-year period showed that there was a relationship between PM and corrective maintenance (CM) work. It was noted that when the PM cost increased in a given year, the CM cost in the following year had decreased and vice versa. Therefore, by investing in PM work, DND could reduce overall maintenance costs over the long term.

Management is encouraged to examine why the annual cost growth for the MCDV fleet has been 5.3<sup>9</sup> percent over the last 10 years. The historical economic model determined that the average escalation rate for ship maintenance is 1.48 percent.

**Recurring Work Cost Escalation**

For the MCDV fleet, ||||| To control cost escalation, Director Maritime Class Management (DMCM) Minor Warship/Auxiliary (MWS/Aux) should consider negotiating a fixed price for tasks where historical costs provide a sufficient baseline.

**Recommendation**  
It is recommended that ||||| For the follow-on contract the CA should be requested to resolve the issue of |||||  
**OPI:** D Mar P

<sup>9</sup> DND Cost Factors Manual—fiscal years (FY) 1999/00 to 2008/09. Original annual escalation was found to be 7.3 percent—which was reduced by 2 percent for contractually stipulated annual labour rate increases.



||||| would improve the process of confirming receipt of deliverables.

**Recommendation**

It is recommended that risk-based sampling of subcontractor supporting documentation be performed to ensure |||

|||||  
**OPI:** D Mar P







### Task Management Efficiency

Task management efficiency<sup>14</sup> could be improved with firm price basis of payment for PM, risk-based task approval thresholds, and staff augmentation.

### Fixed-Price Preventive Maintenance

|||||<sup>15</sup> To streamline the PM task process, PM routines could be consolidated by vessel type as a firm fixed-price package for the ISS contractor to manage while DND DTAs ensure that the PM is completed.

### Approval Thresholds for Tasks

Efficiency gains can be realized by adopting a risk-based approach to task approval. Currently the DTA has an approval threshold of ||||| per task. Tasks that exceed ||||| require additional approval from DND TA, RA and PWGSC.

- Increasing the DND DTA threshold to ||||| would only reduce TA, RA and PWGSC expenditure visibility by 14 percent, but reduce the actual number of tasks for review by |||||<sup>16</sup>
- Similarly, leaving the DTA threshold at ||||| but increasing the DND TA threshold to ||||| would reduce the quantity of tasks for PWGSC approval by ||||| while only reducing PWGSC dollar value visibility by |||||

**Current Annual DND Volume:**

- Tasks: |||||; and
- |||||

**Current Annual PWGSC Volume:**

- Tasks: |||; and
- |||||

<sup>14</sup> Efficiency implies minimizing the loss or waste of energy when effecting, producing or functioning. Sawyer's Internal Auditing 5<sup>th</sup> Edition.

<sup>15</sup> |||||

<sup>16</sup> Current ||||| require greater oversight by the TA over the contract expenditures. Therefore, the current DTA threshold will remain.

### **Staff Augmentation**

If DTA approval thresholds were increased and the PM tasking basis of payment streamlined, the work flow at both coasts could increase.<sup>17</sup> This could impact the current  
|||||

### **Recommendation**

It is recommended that consideration be given to a |||||  
||||| where historical costs are available and best value is assured in subcontract tenders.

**OPI:** D Mar P in consultation with DMCM MWS/Aux

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<sup>17</sup> Although management efficiencies would reduce the number of PM task approvals, the DTAs must have  
|||||





**Reporting Formats.** DND would benefit from data item descriptions (DID) for vendor reports that specify the content of the report.

**Non-Compliant Reporting**

**Schedule Oversight.** Recording actual start dates would help monitor schedule slippage and increase contractor accountability. These dates need to be recorded by the DTA to compare estimated to actual duration of tasks. If there are schedule delays, the contract provides for vendor consideration in the form of adjustment to the price, warranty, quantity and/or services.

**Warranty Tracking System.** According to the MIS specified in the contract, a “cost control system shall be capable of identifying warranty period and issues applicable by class, vessel, system, coast, engineering change and task.”<sup>20</sup>

**Recommendation**

It is recommended that

**OPI:** DMCM MWS/Aux

<sup>20</sup> Contract Statement of Work 2.12.6 Cost Control System.

## Risk Management

Risk identification and management could be improved for the follow-on contract.

### Risk Management Plan

The formulation of a DND risk management plan (RMP) in compliance with DND's Integrated Risk Management policy before awarding the follow-on contract would enhance risk management for the follow-on contract. An RMP would provide the specific methodology to manage the risk associated with future MWAV contract obligations.

In the follow-on contract RFP, DND should also require the vendor to prepare a specific RMP that incorporates the best practices in the PMBOK.

### Dispute Resolution Clause

A dispute resolution clause would enhance the follow-on contract by providing direction on how to deal with contractual disputes. Such a clause does not exist in the current contract.

### Recommendation

It is recommended for the follow-on contract that a DND RMP be developed.

**OPI:** DMCM MWS/Aux in conjunction with D Mar P





## **Material Management**

### **CRS Recommendation**

- 3. It is recommended that CHI oversight be improved and the amount of holdings be reported in the DND financial statements.

### **Management Action**

CHI reporting was not required when the current contract was signed. However, the contractor does conduct regular audits of all Crown inventory and this report is available to the TA and Proc O. Formal reporting through to DMG Compt will form part of the new MWAV III contract. Of note, |||

**OPI:** DMCM MWS/Aux in conjunction with D Mar P

**Target Date:** December 2010

## **Task Management Efficiency**

### **CRS Recommendation**

- 4. It is recommended that consideration be given to a ||| where historical costs are available and best value is assured in subcontract tenders.

### **Management Action**

|||

**OPI:** D Mar P in consultation with DMCM MWS/Aux

**Target Date:** December 2010

## **Vendor Reporting**

### **CRS Recommendation**

- 5. It is recommended |||

### **Management Action**

The adoption of |||

**OPI:** DMCM MWS/Aux

**Target Date:** December 2010



## **Risk Management**

### **CRS Recommendation**

6. It is recommended that for the follow-on contract a DND RMP be developed.

### **Management Action**

An RMP will be developed to address risks leading up to the award of the next contract. Additionally, the new MWAV III Contractor will be required to produce and maintain an RMP related to the work to be performed under the contract. The contractor will also be required to include a risk register for current work in the monthly report.

**OPI:** DMCM MWS/Aux in conjunction with D Mar P

**Target Date:** May 2010





## Annex B—Audit Criteria

### Objective

To assess the adequacy of risk, governance, and control processes in place to administer the MWAV ISSC.

### Criteria Assessment

Level 1 (Satisfactory); Level 2 (Needs Minor Improvement); Level 3 (Needs Moderate Improvement); Level 4 (Needs Significant Improvement); Level 5 (Unsatisfactory)

### Risk

1. **Criteria.** Risks are identified, appropriately managed, including appropriate mitigation clauses in contracts, with a balance of controls that support values and ethics (<sup>21</sup> Core Management Controls: RM1– RM8, PSV1– PSV5).

**Assessment.** |||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||| No DND RMP formulated for follow-on contract; PCRA understated, ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

### Governance

2. **Criteria.** Roles and Responsibilities of the contract management staff are clear, communicated, understood and adequate to provide oversight on the contract, as well as, the size and training of the staff (Core Management Controls: AC1 – AC4, PPL2, PPL4).

**Assessment.** ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||

3. **Criteria.** Information for decision making is reliable and useful reporting strategies are in place (Core Management Controls: ST18, ST20, RP3, CFS4).

**Assessment.** ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||  

<sup>21</sup> Treasury Board of Canada, Secretariat. “Core Management Controls—Draft Version 10,” 5 July 2006.



