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**Reviewed by CRS in accordance with the *Access to Information Act* (AIA). Information UNCLASSIFIED.**

## Internal Audit: CP140 Aurora Maintenance Contracts

February 2007

7050-28 (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 ADM(Mat). Contractors have not been interviewed or otherwise asked to provide comment or feedback.

This audit represents a high level of assurance.



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## LIST OF ACRONYMS

14 AMS	14 Aircraft Maintenance Squadron, Greenwood	FMAS	Financial Managerial Accounting System
AAS	Accountable Advance Spares	FY	Fiscal year
ADM(Mat)	Assistant Deputy Minister (Materiel)	GFOS	Government Furnished Overhaul Spares
AIMP	Aurora Incremental Modernization Project	HST	Harmonized Sales Tax
AOP	Annual Operating Plan	ISSC	In-Service Support Contract
ASIP	Aircraft Structural Integrity Program	LCMM	Life Cycle Materiel Managers
AWR	Additional Work Request	NDQAR	National Defence Quality Assurance Representative
CA	Contracting Authority	NSN	NATO Stock Number
CFSS	Canadian Forces Supply System	OWSS	Optimized Weapon System Support
CRPA	Contractor Repair Parts Account	PAS	Progressive Application of Scope
CRS	Chief Review Services	PAV	Primary Air Vehicle
DAEPM(M)	Director Aerospace Equipment Project Management (Maritime)	PIM	Procurement and Inventory Management
DAPPP	Director Accounts Processing, Pay and Pensions	PMPS	Publications Management and Publishing Service
DGAEPM	Director General Aerospace Equipment Program Management	POL	Petroleum, oils, and lubricants
DCPS	Director Common Procurement and Supply	PWGSC	Public Works and Government Services Canada
DGMSSC	Director General Materiel Systems and Supply Chain	QECK	Quick Engine Change Kit
DMPP	Director Military Program Planning	RA	Requisition Authority
DND	Department of National Defence	R&O	Repair and overhaul
DQA	Director Quality Assurance	TA	Technical Authority
FAA	<i>Financial Administration Act</i>	TB	Treasury Board
FCMO	Field Contract Management Officer	TIES	Technical Investigation and Engineering Support
		TLIR	Third-line inspection and repair
		WO	Work order



## RESULTS IN BRIEF

In 2004, Chief Review Services (CRS) developed a contract risk analysis methodology that identified a three-year \$108-million (HST excluded) CP140 Aurora maintenance contract as warranting audit attention.<sup>1</sup> The Risk Analysis of DND Service Contracts included 347 contracts worth \$4.7 billion in total of which only five demonstrated risk attributes that warranted an audit. Therefore, these audit findings are not representative of the Department's overall contract management practices. This contract was established in April 2002 to provide in-service support to the 21 CP140 Aurora/Arcturus maritime patrol aircraft, such as third-line inspection and repair (TLIR), engineering and publications. As this contract expired in June 2005, the follow-on 10-year \$492-million (HST excluded) CP140 Optimized Weapon System Support (OWSS) Primary Air Vehicle (PAV) contract was also audited.

### Findings and Recommendations

**Risk Management.** Inherent risks with the new In-Service Support Contract (ISSC) strategy have not been fully assessed by the Assistant Deputy Minister (Materiel) (ADM(Mat)). With the exception of airworthiness, standard risk mitigation practices are not used for the management of large aircraft repair and overhaul (R&O) contracts—currently a \$2.45 billion obligation for nine contracts greater than \$30 million.

The risks associated with the ISSC framework should be assessed and a high-level risk mitigation plan should be developed. There is also a need to develop risk management plans for major aircraft R&O contracts greater than \$30 million.

**Certification of Payments.** Payment verification processes and sufficient supporting documentation were not in place to fully support the *Financial Administration Act* (FAA) Section 34 and 33 certification. For the expired contract, where payments totalled \$100.3 million, insufficient evidence was provided for payments totalling..... Under the current OWSS contract, insufficient evidence was provided to substantiate the payment of .....

### Overall Assessment

The results of the audit preclude us from providing assurance that:

- All contract payments are made in compliance with applicable policies/regulations;
- Appropriate monitoring and reporting strategies are in place; and
- Risks are understood and appropriately managed.

Of the total payments at the time of audit (\$116.4 million), nearly ..... were made with insufficient supporting documentation on file. In addition, for the remaining eight years of the OWSS contract, cost savings of ..... per year could be achieved. ....

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<sup>1</sup> CRS Risk Analysis of DND Service Contracts, January 2005.



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fixed fees amounting to ..... per month with no segregation of duties prior to FAA Section 34 sign-off. ....

To improve the rigour of the OWSS payment verification process, it is recommended that a risk-based sampling process be put in place and that FAA Section 34 certification be completed with the appropriate resources, while eliminating the concentration of authority. Also, Public Works and Government Services Canada (PWGSC) should be requested to .....

#### **OWSS Cost Control.** .....

..... To achieve potential savings of ..... per year, over the last eight years of the OWSS contract, it is recommended that contract managers, in consultation with PWGSC, ensure cost controls and monitoring are in place to assure that costs are reasonable and resources are being effectively utilized.

#### **Material Management.** .....

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Contract managers should enforce compliance with the contract's Special Instructions for Repair and Overhaul Contractors A-LM-184-001/JS-001 regarding inventory management and control. Also, an extensive risk mitigation plan should be in place prior to transitioning materiel management to the vendor.

**Vendor Reporting Framework.** Contract managers did not ensure vendor reports complied with delivery/quality requirements or obtain sufficient information to evaluate the vendor's performance. .... To improve information for decision making, it is recommended that cost and schedule reporting be improved, that performance measures address high-risk areas and that defined deliverables be delivered as specified in the contract.

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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

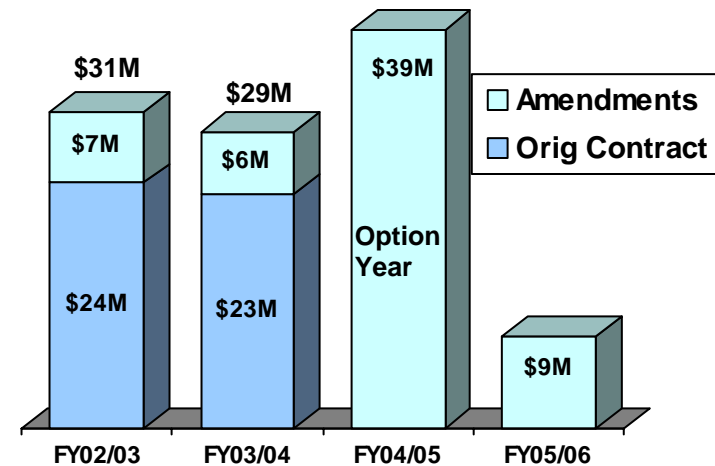
### Background

In 2003, CRS developed a methodology that identified the CP140 Aurora maintenance contract as warranting audit attention.<sup>2</sup> The follow-on CP140 OWSS PAV contract was also audited, as the initial contract expired in June 2005.

**Expired Contract.** The CP140 maintenance contract was established in April 2002 to provide in-service support to the 21 CP140 Aurora/Arcturus maritime patrol aircraft. The \$108-million (HST excluded) contract included an option period in fiscal year (FY) 2004/05 and FY 2005/06, as shown in Figure 1. It was flagged for audit for the following reasons:

- Reliance on quality assurance staff for receipt of goods and services;
- 28 percent growth in contract value in the first two years;
- A sole-sourced contract with no performance incentives;
- Deliverables were not well defined;
- .....of the work was subcontracted;
- A high ratio of contracts to staff in the Director Aerospace Equipment Project Management (Maritime) (DAEPM(M)); and
- “Time and material cost plus” terms of payment.

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**Figure 1. Expired CP140 Contract \$108 Million.**  
\$13 million underestimated in the original two-year contract.

This contract was one of five service contracts selected for audit based on a risk analysis of 347 service contracts worth \$4.7 billion in total.

<sup>2</sup> CRS Risk Analysis of DND Service Contracts, January 2005 ([http://www.forces.gc.ca/crs/rpt/radsc\\_e.htm](http://www.forces.gc.ca/crs/rpt/radsc_e.htm)).





**OWSS Contract.** The expired contract was replaced in June 2005 by the CP140 OWSS PAV contract, the second of several large, long-term “bundled” contracts DND has arranged for major equipment R&O. Awarded to the same vendor as the previous contract—the only bidder—the CP140 OWSS contract highlights are as follows:

- A 10-year term, \$492 million (HST excluded);
- A 15-percent saving in annual contract costs in year four;
- Increased scope through Progressive Application of Scope (PAS) in the first three years of the contract. The PAS details the vendor business case and the high-level plan to accomplish incremental work that was historically DND scope; and
- The introduction of performance measures in contract year four.

## Objectives

The objective of this audit was to provide assurance that information for decision making and management frameworks, including risk mitigation strategies, are in place to effectively manage the CP140 Aurora maintenance contracts. The audit determined whether:

- Contract payments are made in accordance with current policies;
- Appropriate monitoring and reporting strategies are in place;
- Risks are understood and appropriately managed; and
- The costs of services represent reasonable value for money.

## Scope

- Expenditures totalling \$116.3 million on the expired and current OWSS contracts from April 2002 to December 2005.
  - Expired contract—coverage of ..... of \$100.3 million total expenditures that identified systemic issues for all progress claims.
  - Current OWSS contract—\$16.0 million actual expenditures in FY 2006 (July 2005 to December 2005).
- The scope was extended to include ..... CH124 Sea King helicopter maintenance contract with the same vendor. The same CFSS account was shared between the CH124 Sea King and the CP140 Aurora with an identical basis of payment for material handling fees.

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## Methodology

- Development of detailed audit criteria to perform audit tests on a directed sample that identified systemic issues for all expenditures of 16 progress claims payments totalling \$44.1 million (38 percent coverage).
- Analysis of relevant data within the Financial Managerial Accounting System (FMAS) and the CFSS.
- Site visits to National Defence Quality Assurance Representatives (NDQAR) Halifax and 14 Aircraft Maintenance Squadron (14 AMS), Greenwood; staff interviews with Director Accounts Processing, Pay and Pensions (DAPPP) and DAEPM(M).
- Contract documentation review such as monthly reports, inventory reports, claims.
- Benchmarks with allies and US Air Force research papers.

## Criteria

The audit criteria and assessment scorecard may be found at [Annex B](#).



## FINDINGS AND RECOMMENDATIONS

### Risk Management

*Inherent risks with the new ISSC strategy have not been managed. With the exception of airworthiness, standard risk mitigation practices are not used for the management of large aircraft R&O contracts—currently a \$2.45-billion obligation. Standard practices of risk assessment, quantification, mitigation, monitoring and reporting are not being exercised by DND ..... to effectively manage the CP140 Aurora OWSS PAV contract.*

### Risk Assessment

- Review of the ISSC framework—the ADM(Mat) guidance document for long-term “bundled” OWSS contracts—includes risks that are inherent to this new contracting strategy. The risks listed below did not include an assessment of the impact/probability of occurrence or high-level mitigation plans.
  - Vendor performance during a time and material payment phase prior to establishing a fixed price;
  - Auditability of vendor performance metrics;
  - Vendor interface with DND information systems; and
  - Fault attribution system for deficient performance by the vendor and DND.
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Currently, there are nine major aircraft R&O contracts worth \$2.45 billion with no comprehensive risk management framework other than the airworthiness concerns articulated in the AF9000 quality management system.



- .....
- .....

### Risk Monitoring and Reporting

- .....
- Risks were not quantified in terms of cost or schedule impact—a common risk management practice used by other projects in the Department and in the private sector.
- On-going risk assessment may have anticipated many of the audit team observations such as:
  - .....
  - .....
  - Aurora Incremental Modernization Project impact on scheduling and vendor resources.

### Recommendations:

- ADM(Mat) assess and mitigate the risks associated with the ISSC framework; and
- ADM(Mat)/DGAEPM develop risk management plans for major R&O contracts greater than \$30 million that require DND and vendors to manage and report on risks at Progress Review Meetings.



## Certification of Payments

*Payment verification processes and sufficient supporting documentation were not in place to fully support the FAA Section 34 and 33 certification. For the expired contract, where payments totaled \$100.3 million, there was insufficient documentation to validate payments totaling .....*

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**Financial Administration Act.** Prior to the payment of invoices, the FAA requires the following certifications:

- FAA Section 34—the goods have been received or services rendered and the payment is according to the contract.
- FAA Section 33—the payment is for a lawful charge against an authorized appropriation, within the funding allocation and will not exceed the funds available.

**Expired Contract Payment Certification.** Contrary to interdepartmental policy and standard air force practices<sup>3</sup> observed on other R&O contracts, the DAEP(M) payment certification process has not involved the Technical Authority (TA) to verify the delivery of goods and services. Payments of \$100.3 million for the expired contract, portrayed at Table 1 relied on validation by:

- The on-site NDQAR who only certified for the quality of work, not the receipt of services and goods; and
- The PWGSC Field Contract Management Officer (FCMO) in the plant.

Type of Expense	No Validation	Partial Validation
TLIR Firm Price Labour		.....
Engineering/Pubs/R&O Labour		.....
Material, Tools, Manufactured Parts	.....	
Subcontract Work	.....	
Material Embodiment Fees	.....	
Material Transfer/Disposal Fees	.....	
Other (Reports/POL/Travel)		.....
Total	.....	.....

**Table 1. Expired Contract Certification \$100.3 Million.**

*.....of the expenditures had insufficient documentation to validate payment certification.*

<sup>3</sup> Division of ADM(Mat)/PWGSC Responsibilities for Acquisition of Goods and Services, April 2005, LCMM Handbook, Chap 7, AF9000 DG09.004, August 2001.



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The FCMO monitored the vendor's schedule, rates, and tax charges, and reconciled total labour, material and travel costs with the vendor information system summary reports. However, as per Table 1, the FCMO validated only .....of the payments by a small sample, and ..... of the payments were certified with insufficient supporting documentation. ....

- Labour hours were verified on only one progress claim per year—8.0 percent of the labour costs.
- There was no examination of material invoices.
- The major R&O subcontract claim rates were reviewed but no verification of labour and material was done.
- Only the total from the vendor's information system was examined for material embodiment or transfer fees with no supporting documentation to validate the charges.
- The "Other" cost category was validated with only a sample of travel claims.

**OWSS Payment Certification.** The OWSS basis of payment stipulates a negotiated Annual Operating Plan (AOP) for the yearly outputs that shall be invoiced in 12 equal monthly billings with a year-end reconciliation. To satisfy the FAA, this payment process still requires verification that the price charged is in accordance with the contract and goods/services have been rendered. The main payment certification observations were:

- Invoices totalling ..... contained no cost breakdown and payment certification was completed without any verification of labour, material or subcontract costs.
- .....
- There was no sign-off by the TA, NDQAR or the PWGSC FMCO prior to the Requisition Authority (RA) sign-off for FAA Section 34—a certification process for payments worth \$30 million per year that involved only one individual. There was no segregation of duties; the RA authorized what work was to be done and subsequently approved that the work was completed. DAPPP, the FAA Section 33 signing authority, relies on the FAA Section 34 sign off to determine if the charges are accurate.
- .....
- ..... The anticipated growth of work could result in additional advance payments for FY 2007 amounting to \$2.5 million, with an estimated future value of money loss of \$49,560.

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**Recommendations.** ADM(Mat)/DAEPM(M):

- Conducts risk-based sampling of supporting documentation with approval from DAPPP;
- Ensures the vendor monthly activity summary reports contain the cost breakdown;
- Requires the TA to verify the receipt of goods and services;
- Segregates FAA Section 34 duties to avoid concentration of authority;
- Considers future value of money for advance payments at year-end reconciliation; and
- Requests PWGSC to audit .....

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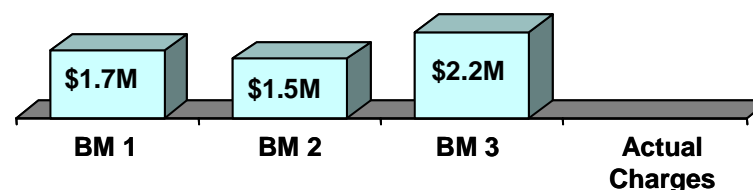
## OWSS Cost Control

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**Warehouse Charges** ..... The vendor's materiel management function is a fixed cost, yet the basis of payment is a mark-up on the flow-through value of inventory. The ISSC framework recommends fixing prices where risks are known and manageable.

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- Benchmark 1—Estimate of the vendor's actual costs using the approximate size of vendor's warehouse, the .... warehouse personnel, and applying Cost Factor Manual pricing.
- Benchmark 2—Estimate based on the air force R&O contract for the CC150 Polaris (Airbus), a warehouse that is considerably larger but holds the same value of DND assets.
- Benchmark 3—A previous CRS audit entitled *National Procurement– Materiel Reprovisioning* in November 2000 found that a DND standard of 5 percent of the recorded inventory value should be a reasonable value to determine warehousing costs.



**Figure 2. Warehousing Benchmark (\$M/Year).**

.....  
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**Cost Baseline**..... The OWSS contract provides a cost baseline for a minimum 15 percent cost reduction to be achieved in year four of the contract. The \$44.6 million annual baseline was provided to the vendor in December 2004. The audit of the cost baseline revealed .....

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**Benchmarks.....** Benchmarking of contracted airframe maintenance was done with several allies that use the same CP140 Aurora aircraft—known as the P-3 Orion in other nations,<sup>5</sup> as portrayed in Table 3.

- The increase of the vendor’s scope of work in the OWSS CP140 contract has resulted in an increasing trend compared to most allies.
- Although maintenance costs are similar to allied nation D, availability of serviceable CP140 Aurora aircraft is 10 percent lower.

A further benchmark was used to analyze the growth of TLIR labour hours with respect to the age of the aircraft to see if the ..... in the AOP for contract year two was reasonable.

- A RAND report indicated that a 20-year-old \$100-million aircraft would increase TLIR labour hours at an average rate of 5 percent per year.
- A review of the vendor labour hours for CP140 Aurora TLIR over a six-year period had an escalating trend of ..... per year as shown in [Annex C](#).
- At the benchmarked escalation rate, a ..... reduction could amount to annual savings of ..... per year.

**Rework and Warranty** .....

Nation	Number of Aircraft	Age of Aircraft	Cost/Aircraft/Year (\$M)
Allied Nation A	100	25	\$0.9
Allied Nation B	19	Varying	\$1.5
Allied Nation C	8	11	\$2.1
Allied Nation D	173	24	\$1.7
CP140 Aurora	20	25	\$1.5
CP140 Aurora (FY 2006/07)	20	25	\$2.0

**Table 3. Contracted Airframe Maintenance Costs FY 2005/06.**  
*Costs are similar to allies but growing as the vendor assumes a greater scope of work in 2006/07.*

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<sup>5</sup> It is acknowledged that there are potential differences in the environment, usage, and configuration of the aircrafts that will alter these findings.



**Recommendations.** ADM(Mat)/DAEPM(M), in consultation with PWGSC:

- Establish a yearly fixed fee for warehousing and materiel handling charges;
- Revisit the makeup of the cost baseline;
- Use benchmarking that incorporates an ageing index to aid in annual contract negotiation;
- .....
- Take advantage of the warranty clause in the contract for any rework costs.

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## Material Management

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### Transitioning of Fleet Inventory Management. ....

DAEPM(M) has not yet accepted a PAS that requires the vendor to manage all CP140 Aurora PAV inventory currently held at two major supply depots, two bases, and several operational units. ....

### Holding Adjustments. ....

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**Visibility of Vendor-held DND Inventory.** Contract management staff did not ensure vendor compliance with a 100 percent two-year stocktaking cycle specified in the contract.

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- Stocktaking was temporarily suspended after March 2003 due to inaccuracies caused by the introduction of the CFSS upgrade in November 2002.



**CRPA Stock Levels.** Incomplete materiel management information in the CFSS prevents timely procurement decisions and prolongs maintenance schedules due to materiel stock-outs. An analysis of one vendor-managed CRPA with 10,750 line items valued at ..... indicated that:

- .....
- .....
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**Financial Reporting of Vendor-held Inventory.** Recently, the Department has taken the initiative to improve the financial reporting of contractor-held DND inventory not visible in the CFSS. Known as Accountable Advance Spares (AAS) or Government Furnished Overhaul Spares (GFOS), these items are only required for vendor maintenance and, therefore, not catalogued in the CFSS. Although the AAS/GFOS CP140 Aurora assets, worth \$13.97 million, are being recorded in DND year-end financial statements, it was observed that out of 17,001 line items:

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**Repairable Component Work Order Visibility.** The contract includes R&O guidelines that require the vendor to raise a work order (WO) in the CFSS for each repairable component in the vendor R&O line. All R&O action and material consumption should be reflected against the correct CFSS WO.

- .....as shown in Table 4.

- .....

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**CFSS Accounts.** A separate CRPA was not established for the CP140 Aurora maintenance contracts, a standard CFSS account structure for vendor-managed inventory.<sup>6</sup> It has resulted in a single CRPA that includes DND inventory for two different fleets: the CP140 Aurora and the CH124 Sea King. ....

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.....	.....	.....	.....
.....	.....	.....	.....

**Table 4.** .....  
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**Recommendations.** ADM(Mat) ensure that:

- DQA, DAEPM(M) and DCPS enforce compliance with terms and conditions in the contract for Special Instructions for Repair and Overhaul Contractors A-LM-184-001/JS-001 regarding stock adjustments, stocktaking, AAS/GFOS management, WOs, and the CFSS 3<sup>rd</sup> line R&O account structure; and
- DAEPM(M) develops an extensive risk mitigation plan for the transition of materiel management to the vendor.

<sup>6</sup> A-LM-184-001/JS-001 Special Instructions for Repair and Overhaul Contractors, Chapter 2, page 1.



## Vendor Reporting Framework

*Contract managers did not .....or obtain sufficient information to evaluate the vendor's performance. Delays in life cycle support that have adversely affected operational readiness will not be addressed until the introduction of performance incentives in 2008.*

## Vendor Reporting

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Progressive Application of Scope	Annual Costs (\$M)	Annual Savings (\$M)	Annual Net Benefit (\$M)
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Table 5. PAS Cost Benefit Analysis. ....  
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## Performance Measures

- The performance measures in this OWSS contract allow the Crown to reward the vendor for achieving predefined standard levels. A detailed review of six proposed performance measures raised concerns with the behaviour these measures would produce, the formulas that were defined, and the quality of the data.





- Material delivery times could encourage the vendor to hold surplus inventory. Metrics formulas for material delivery could not be related to the CFSS accounts managed by the vendor.
- Quality of material excluded TLIR spares and used an unreliable pre-installation failure database.
- Aircraft plant loading did not include flight acceptance testing.

### Cost and Schedule Management

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- Best practices in industry and the Life Cycle Materiel Manager handbook recommend cost schedule management systems, an earned value reporting methodology, be put in place where possible. ....

#### Recommendations. ADM(Mat)/DAEPM(M):

- Include a weighting/scoring for quality/timeliness of required reports in the customer satisfaction metric as the current OWSS metrics do not include reporting satisfaction;
- Refine performance measures to address key risks such as inventory levels; and
- Introduce earned value reporting to improve cost and schedule management of TLIR.

<sup>7</sup> Vendor's FY 2005/06 Annual Operational Plan, 3 June 2005, page 8.



**ANNEX A—MANAGEMENT ACTION PLAN**

Ser	CRS Recommendation	OPI	Management Response/Action	Target Date
1.	<b>Risk Management.</b> ADM(Mat) assess the risks associated with the ISSC framework and develop high level risk mitigation plans. Develop risk management plans for major aircraft R&O contracts greater than \$30 million that would require DND and the vendor to manage and report on contract risks at Progress Review Meetings.	DMGSP	- DMGSP will initiate a review of strategic accountability and risk management issues related to the new ISSC/OWSS contracting framework. The review will involve a number of internal and external agencies and the objective is to ensure that the benefits of the framework are realized while ensuring appropriate visibility into, and accountability for, expenditures of public funds.	Sep 07
		DMGSP	- The risks of the ISSC framework will be assessed and high-level risk mitigation guidance will be incorporated into the ISSC framework governing documents.	Sep 08
		DGMSSC/ DMPP	- DMPP will include requirements for risk management plans and practices in the draft PM DAOD 3000-1 and the ISSC framework.	Dec 07
		DGAEPM	- DGAEPM AF9000 procedure EMT06.003, Generic Guidelines for the Management of R&O Contracts, will be amended to include the requirement for the development and maintenance of a risk register for contracts with an annual cash flow of \$30 million or greater in accordance with the Mat Knet risk management practices and the Procurement Administration Manual, Chapter 3.1.5.	Mar 07
		DAEPM(M)	- DAEPM(M) shall ensure risk management is a standing agenda topic for all technical/progress review meetings in accordance with the vendor's Project Management Plan.	Complete



## ANNEX A

Ser	CRS Recommendation	OPI	Management Response/Action	Target Date
2.	<b>Payment Certification.</b> ADM(Mat) obtain the vendor monthly activity cost breakdown, conduct risk-based sampling of supporting documentation with approval from DAPPP, require the TA to verify the receipt of goods and services, segregate FAA Section 34 duties/the concentration of authority, consider future value of money for advance payments at year end reconciliation and request PWGSC .....	DAEPM(M)	- Since Aug 06, the vendor's Monthly Activity Summary provided the high-level costing information required in the contract's Data Item Description.	Complete
		DAPPP/ DAEPM(M) DMPP	- Since Jul 06, a random, risk-based sampling of supporting documentation has been reviewed to verify invoices prior to payment. DMPP will examine certification processes that involve the QAR at the vendor facility and the TA at NDHQ.	Complete
		DAEPM(M)	- Since Jul 06 the TA has signed the certification on invoices, which also addresses the concern for segregation of duties.	Jun 07
		DAEPM(M)	- The PWGSC manager will compare monthly payments to the vendor's actual expenditures to determine if either the vendor or Canada is significantly disadvantaged by the present monthly payment scheme and amend the contract accordingly.	Complete
		DAEPM(M)	- The PWGSC manager will follow up on ..... ..... as deemed appropriate. <i>Audit Note: With DAEPM(M)'s concurrence CRS audit working papers have been handed over to PWGSC to assist .....</i> .....	Dec 07
				Jan 07

Severed under  
Section  
21(1)(a)(b)  
of the AIA  
Advice, etc.

## ANNEX A

Ser	CRS Recommendation	OPI	Management Response/Action	Target Date
3.	<b>OWSS Cost Control.</b> ADM(Mat), in consultation with PWGSC, establish a yearly fixed fee for warehousing, revisit the makeup of the cost baseline, use benchmarking that incorporates an ageing index to aid in annual contract negotiation, ensure rob costs are minimized through an inventory management performance measure, and take advantage of the warranty clause in the contract for any rework costs.	DAEPM(M)	- PWGSC will consider .....	Apr 08
		DAEPM(M)	- DGAEPM OWSS Senior Cost Analyst is currently revisiting the cost baseline, which will be updated each year in order to accommodate scope and activity changes.	Apr 07
		DAEPM(M)	- The next revisions of the DAEPM(M) CP140 Cost Model will include ageing indices based on five years' historical data.	Apr 07
		DAEPM(M)	- An inventory management measure and a ..... will be included in Quarterly Cost Performance Reports.	Apr 07
		DAEPM(M)	- A working group consisting of NDQAR, TA, RA, CA, and vendor shall determine if the processes currently in place facilitate the warranty clause in the contract and the direction provided in A-LM-184-001/JS-001 Special Instructions for Repair and Overhaul Contractors, Chapter 10.	Apr 07

Severed under  
Section  
21(1)(a)(b)  
of the AIA  
Advice, etc.

## ANNEX A

Ser	CRS Recommendation	OPI	Management Response/Action	Target Date
4.	<b>Material Management.</b> ADM(Mat) enforce compliance with terms and conditions in the contract for Special Instructions for Repair and Overhaul Contractors A-LM-184-001/JS-001 regarding holding adjustments, stocktaking, AAS/GFOS management, work orders and the CFSS account structure.	DGMSSC	- ..... ..... ..... ..... All adjustments will have to be performed by the NDQAR/Resident Supply Tech. A DMPP, DSCO and DMG Compt working group have identified five risks that will be addressed in an inventory/stocktaking baseline at DND warehouses.	Complete
		DMG Compt		
		DQA	- Stocktaking reporting has been rectified between NDQAR and the vendor since Aug 06. A review of AAS/GFOS holdings will be initiated once A-LM-184-001/JS-001 is revised.	Complete Apr 07
		DAEPM(M)	- The vendor had been closing R&O work orders in its enterprise system, ..... A new CRPA to separate CH124 Sea King spares from CP140 spares was established in Oct 06.	Complete
	If the vendor scope of inventory management expands for all levels of CP140 Aurora maintenance, then an extensive risk mitigation plan is required transitioning materiel management to the vendor.	DAEPM(M)	- DAEPM(M) advised the vendor to amend material support Progressive Application of Scope, to include a trial phase with a limited number of both repairable and consumable spares over a specified time as a risk mitigation strategy.	Complete

Severed under Section 20(1)(c) of the AIA  
Third party information;  
Severed under Section 21(1)(a)(b) of the AIA  
Advice, etc.



ANNEX A

Ser	CRS Recommendation	OPI	Management Response/Action	Target Date
5.	<b>Vendor Reporting Framework.</b> To improve vendor reporting, ADM(Mat) include weighting/scoring for quality/timeliness of required reports in the customer satisfaction metric, refine performance measures to address key risks such as inventory levels, and introduce earned value reporting to improve cost and schedule management of TLIRs.	DAEPM(M)  DAEPM(M) DMPP	<ul style="list-style-type: none"> <li>- Performance measures have been established that will measure the quality and timeliness, respectively, of report deliverables. They will be trialled from Apr 07 for collection and analysis purposes, and implemented contractually following the contract transition phase Apr 08.</li> <li>- During the FY 2007/08 the merits of implementing some earned value like reporting for TLIR elements of the contracts will be examined. An earned value working group consisting of TA, RA, CA and DMPP staff shall convene and report to the Weapon System Manager.</li> </ul>	<p>Apr 08</p> <p>Jun 07</p>



**ANNEX B—AUDIT CRITERIA SCORECARD**

Criteria	Score	Justification	Ref
<b><i>Risks Management Framework</i></b>			
Risks understood/appropriately managed.		.....	Pg 1
Crown indemnification and contractor insurance.		.....	Briefed
Contract provisions for termination in place.		.....	Briefed
Warranty provisions reduce risk to the Crown.		.....	Pg 11
Performance measurement system is in place.		.....	Pg 16
Contract dispute resolution provisions in place.		.....	Briefed
<b><i>Management Control Framework</i></b>			
Roles and responsibilities are clear.		.....	Pg 6
Contract management staff trg, experience, workload.		.....	Pg 7
Oversight exists to monitor value for money.		.....	Pg 10
Reasonable balance between risk and controls.		.....	Pg 7
Assets safeguarded and accounted for.		.....	Pg 13
Payments are IAW FAA, TB, PWGSC regulations.		.....	Pg 7
Flow down of contract terms to subcontractors.		.....	Pg 7
Contractor meets operational requirements.		.....	Pg 17
SOW sufficiently describes op requirements.		.....	Briefed
Contract addresses national security risks.		.....	Briefed
Optimum basis of payment.		.....	Pg 8
Shared set of value and ethics.		.....	Pg 8
<b><i>Information for Decision Making</i></b>			
Appropriate monitoring & reporting strategies in place.		.....	Pg 16
Decision-making information is reliable.		.....	Pg 16



Satisfactory



Needs Minor Improvement



Needs Moderate Improvement



Needs Significant Improvement



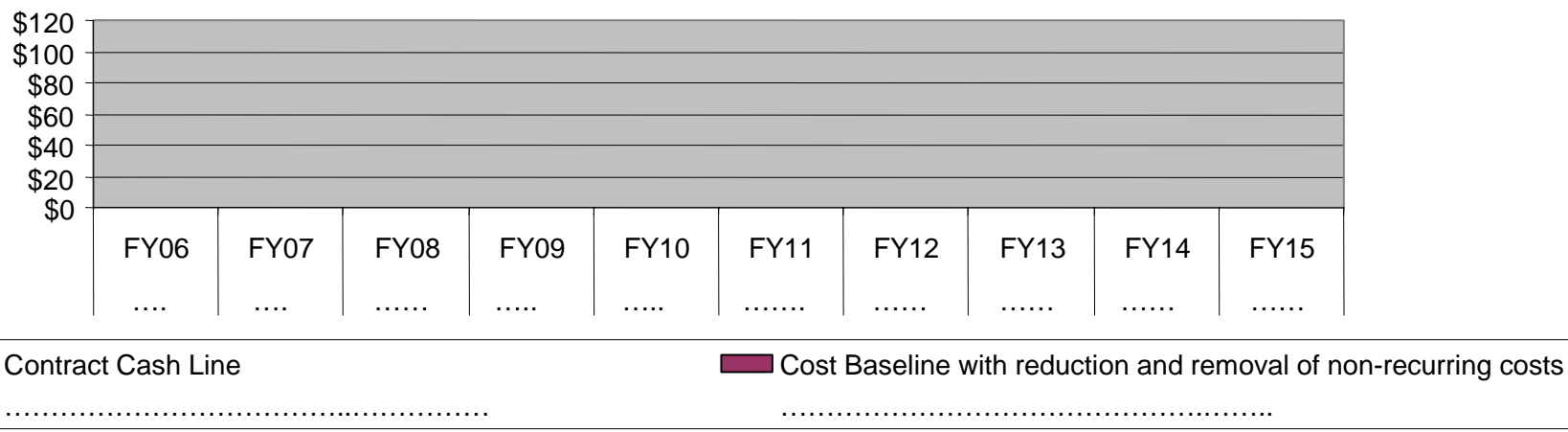
Unsatisfactory







## ANNEX D—COST BASELINE/CASH LINE (\$M)



Severed under  
Section  
20(1)(c)  
of the AIA  
Third party  
information;  
Severed under  
Section  
21(1)(a)(b)  
of the AIA  
Advice, etc.

Analysis of the OWSS contract approval documents found that .....

.....

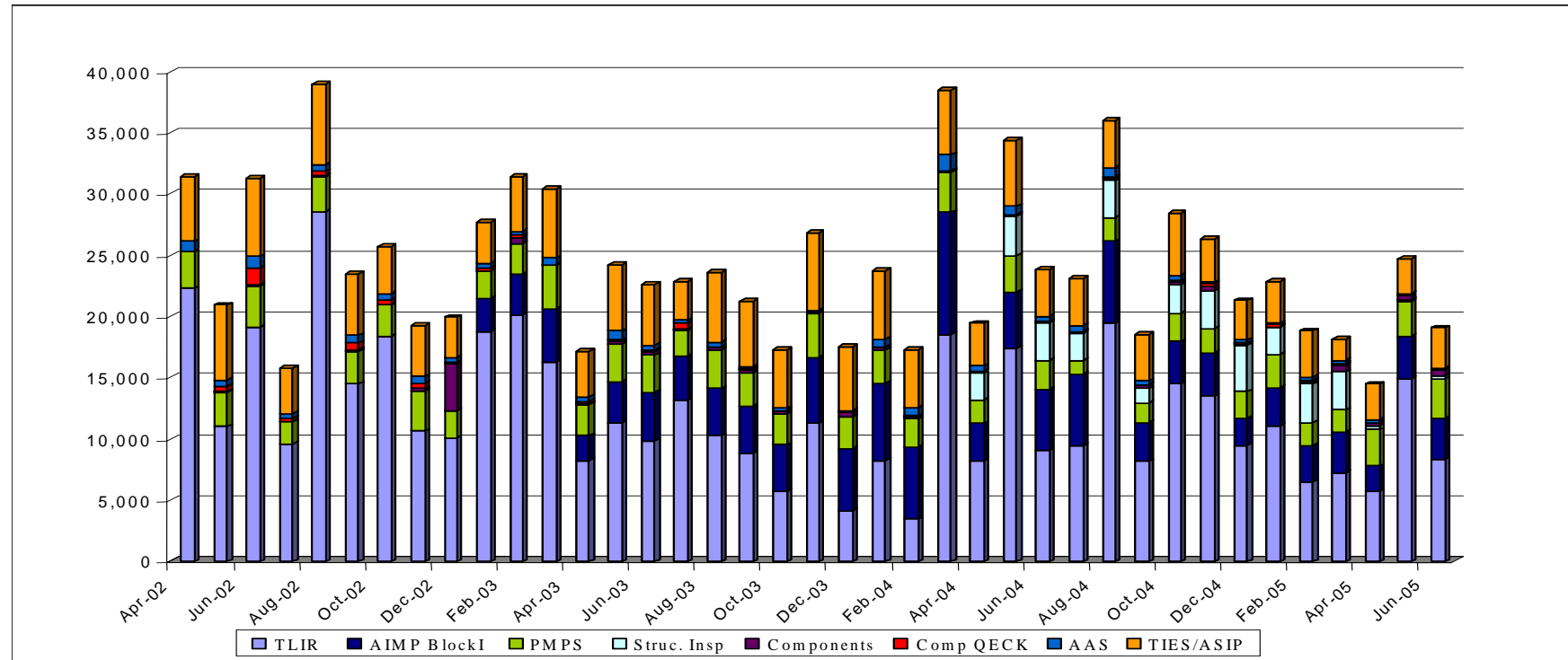
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## ANNEX E—FLUCTUATION OF HOURS



Severed under  
Section  
20(1)(c)  
of the AIA  
Third party  
information;  
Severed under  
Section  
21(1)(a)(b)  
of the AIA  
Advice, etc.

It was explained by DAEP(M) staff that the wide fluctuation of hours were due to a lower level of effort for Arcturus aircraft TLIRs from May 2003 to March 2004. Another explanation offered by DAEP(M) was that.....  
..... A more even workflow could have prevented the 10-percent slippage experienced in the five-year TLIR program. ....  
.....

AIMP—Aurora Incremental Modernization Project  
PMPS—Publications Management and Publishing Service  
QECK—Quick Engine Change Kit

TIES—Technical Investigation and Engineering Support  
ASIP—Aircraft Structural Integrity Program

