Canadian Space Agency | Agence spatiale canadienne

International Space Station Assembly and Maintenance Operations Program Management Framework Audit (1.2.1.1)

AUDIT REPORT

PROJECT # 11/12 01-02

Prepared by the
Audit and Evaluation Directorate

SEPTEMBER 2012

Canada

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1.0 SUMMARY

1.1 Audit objective

The objective of this audit project was to determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.

1.2 Audit opinion

In our opinion, the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.

1.3 Statement of assurance

It is my opinion, as Chief Audit Executive, that sufficient and appropriate audit procedures have been conducted and evidence gathered to support the accuracy of the opinion contained in this report. This opinion is based on a comparison of the conditions, as they existed at the time of the audit, with the audit criteria. The opinion is applicable only to the particular entity examined. The evidence was gathered in compliance with Treasury Board (TB) policy, directives and standards for internal audit. The procedures followed comply with the professional standards of the Institute of Internal Auditors. The evidence gathered is sufficient to persuade senior management of the validity of the opinion derived from the internal audit.

1.4 Summary of recommendations

Our audit demonstrated that the International Space Station (ISS) Assembly and Maintenance Operations Program has put in place good practices regarding the operations planning. The program's expected outcomes are clearly defined and are intended to help Canada meet its commitments under the agreements with international partners. The program has put in place an operational plan that allows to maintain and operate the Canadian Mobile Maintenance System (MMS) equipment, as well as to participate in the planning and co-ordination of the ISS integrated operations.

Our audit also revealed that the financial resource planning processes are thorough and support the implementation of activities in the short and medium terms. The program has developed a number of tools and practices for planning, monitoring and maximizing the use of the available resources.

With regard to operations management, we determined that management processes and effective controls have been implemented by the program in order to monitor activities. This criterion is important, since approximately $30 million is allocated annually under contractual agreements for the purchase of professional services related to technical support. We also reviewed a sample of 35 transactions that showed that the spending authorities are monitored and that the expenditures are approved, made and accounted for in accordance with the acts, regulations and guidelines in force.

We identified some opportunities for improvement for which we make the following recommendations:

1. Consolidate in a document the information setting out all of the anticipated exceptional costs for extending Canada’s participation in the ISS activities to 2020;
2. Improve the documentation for the risk analysis process particularly regarding the assessment of probability and potential impacts on the achievement of expected outcomes;
3. Discuss with the Treasury Board Secretariat (TBS) in order to provide more specific information regarding the indicator used in the Performance Measurement Framework (PMF) for sub-sub

activity “ISS Assembly and Maintenance Operations Program” (1.2.1.1) of the Program Activity Architecture (PAA), and review the indicator if necessary;

4. Complete the development of the program's Performance Measurement (PM) Strategy and implement it.

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Signature of the Chief Audit Executive

Member of the audit team

Dany Fortin

2.0 AUDIT REPORT

2.1 Background and risk

The International Space Station (ISS) Assembly and Maintenance Operations Program is part of the International Space Station program sub activity (1.2.1) of the Program Activity Architecture (PAA). This sub activity refer to the ISS, a unique Earth-orbiting laboratory with the objective to learn to live and work in space while conducting scientific, medical and engineering studies. It includes the assembly and maintenance of the ISS through the use of the Canadian Mobile Servicing System (MSS) and the design, development and operations of payloads and technological demonstrations aboard the ISS.

The ISS assembly and maintenance operations include the provision and operation of the Canadian MSS, composed of three Canadian robots: Canadarm2, Dextre and the Mobile Base System. MSS operations and maintenance systems are conducted by Canadian or foreign astronauts onboard the ISS and by ground controllers and engineers located in established facilities at the CSA and the National Aeronautics and Space Administration (NASA) – Johnson Space Center. The program also includes the provision of specialized MSS training, systems engineering and software services, flight procedures development, as well as the facility infrastructure necessary to operate the ISS through its life cycle. These activities are necessary to fulfill Canada's ongoing commitment to the international partnership to assemble and maintain the ISS pursuant to the Canadian Civil ISS Agreement Implementation Act.

The total cost of Canada's participation in the construction of the ISS was $1.245 billion as at March 31, 2003. The program's operating costs have been approximately $40 million per year since that date. The Government of Canada recently renewed the country's commitment to its partners for the period up to 2020. It is anticipated that, beginning in 2015, $18.9 million per year in new costs, representing Canada's portion of the ISS shared operating costs, will be added to the program expenditures. Negotiations are under way to determine how this contribution will be honoured.

The prioritization of this audit project in the Audit Plan is related to the program's materiality in dollar terms ($40 million a year on average) and the program's contribution to the objectives of the organization, which have been evaluated as being very high. In addition, the program has been identified by managers as comprising particular medium risks, among other things in terms of technical, program, schedule and cost.

2.2 Audit objective, scope and approach

Objective

The objective of this audit project was to determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.

Scope

The audit project, which was carried out at CSA headquarters in St. Hubert, Quebec, focused specifically on the ISS Assembly and Maintenance Operations Program (1.2.1.1). The project scope includes the activities and financial transactions carried out between April 1, 2010, and February 29, 2012.

It should be noted that this project excludes ISS utilization activities, which are in their initial phase and are part of a separate program. In addition, procurement processes were not reviewed because a specific project pertaining to that aspect was recently completed at the CSA.

Method

The audit criteria were established in accordance with good management practices and the guidelines issued by the TB. Various audit procedures were undertaken, including interviews and reviews of documents, contract files and financial transactions.

2.3 Findings, recommendations and management response

To ensure sound program management and compliance with TB requirements, we expected to find the following:

- Operations that are effectively planned;
- Operations and resources used that are controlled; and
- The entities operations that are subject to accountability and results that are measured.

The audit objective and criteria were discussed with management.

2.3.1 Operation planning

Audit objective:		**Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.**
FINDINGS	Criterion 1	The operations are effectively planned.
	Condition	**Program's expected outcomes** In our opinion, the expected outcomes of the ISS Assembly and Maintenance Operations Program are clearly defined and contribute to achieve the CSA's objectives and corporate priorities. The expected outcomes are based on Canada's commitments to its international partners with regard to the country's participation in the ISS project. These commitments are defined in the *Civil International Space Station Agreement Implementation Act*, the intergovernmental agreement with the international partners and the memorandum of understanding with NASA. One of the commitments for the Government of Canada is to provide, through the CSA, the Canadian MSS. This system includes the Canadarm2, Dextre and the Mobile Base System. In addition, Canada is responsible for the following: • Operating the components that it provides throughout the life of the ISS project; • Developing and implementing procedures for operating the

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		components that it provides safely, effectively and efficiently for users; • Maintaining the components it provides, including systems integration and engineering, in good working order; • Managing its own programs in connection with the ISS, including utilization; • Providing the United States with assistance in the planning and co-ordination of ISS integrated operations; and • Bearing the costs of fulfilling its respective responsibilities, including the sharing of the agreed common system operating costs or activities attributed to the operation of the Space station as a whole. In return for these contributions, Canada receives 2.3% of the ISS utilization rights for scientific research and astronaut flight opportunities. The objective is to enable the CSA to understand certain specific aspects and make technological breakthroughs in order to prepare for the challenges of space exploration, as well as generate benefits on Earth. These contributions will also provide the industry and Canadian universities with priority access to the ISS. **Implementation of activities to achieve the expected outcomes** In our opinion, program management identified and implemented activities that allow the achievement of the expected outcomes. Technical and operational activities are planned with a high degree of accuracy to meet the requirement of the agreements with the partners. On a technical level, the need to certify the capacity of Canadian equipment and systems several years in advance makes it necessary for program management to identify the work that will have to be done to guarantee the functionality of the equipment and systems. In that regard, program management is currently developing an analysis document setting out all of the technical problems that will have to be taken into consideration in order for the activities to be certified up to 2020 and subsequently to 2028. The specific analysis of the Canadarm2 has been completed, while that of Dextre and the Mobile Base System should be completed soon. Although part of these analysis is based on the concept of equipment failure risk, a number of activities have already been identified and submitted to the Executive Committee to obtain the additional funding required. The analysis of technical requirements

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		is therefore very detailed and carried out well in advance. On an operational level, activities are planned on the basis of the various operations to be carried out in order to honour Canada's ISS commitments. These operations are divided into five types of activities: • Operations management; • Mission preparation; • Engineering support and maintenance; • Mission support; and • Astronaut and ground personnel training. The operational plans developed each year by program management identify the operations to be carried out in each type of activity in order to achieve the program's expected outcomes. The tasks to be performed are then determined according to the mission schedule and their respective characteristics. The overall objective is to fulfil all requests associated with Canada's responsibilities. In addition, work plans describing all of the work to be carried out are drawn up with the contractual entities performing a majority of the tasks. We observed that the planning of these activities was very meticulous and support the achievement of the expected outcomes. **Financial resource planning** We observed that the program's financial resource planning procedures are meticulous and support the realization of activities in the short and medium terms. In addition to participation into the various corporate processes in place at the CSA, program management has developed several practices and tools in order to plan, monitor and maximize the use of available financial resources. On the corporate level, the CSA has put in place processes to provide support for the programs in the area of activity and resource planning. As part of the CSA's integrated management cycle, each program manager submits detailed operational plans describing the activities to be carried out in the following year, the resources to be allocated to those activities, the desired outputs and the performance targets. Financial forecasts are drawn up based on the cost centres and types of expenditures. Commitments and actual expenditures are then monitored on a monthly basis. Program management must also submit an annual reference level update (ARLU) in which an estimate of projected expenditures over a three-year period is provided. We found that program

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.		
		management participated in all of these processes. At the beginning of the year, program management also establishes the financial programming for the ISS maintenance contract and other mission preparation related tasks. This contract amounts to about $27 million per year and is subdivided into several work packages to be completed by an outside entity. Negotiations take place to determine the level of effort required for each package. Special attention must be given to this planning because it is subject to a number of changes over the year. These changes may result from a review of priorities or from complications or modifications to requirements. The situation calls for a degree of flexibility in resource planning. With help from the Finance group, program management has therefore developed tools and practices that provide some flexibility. Many monitoring and control tools have been developed and implemented in order to continually track project progress and costs. This allows program management to respond in a timely manner and promptly reallocate funds when work is delayed, revised downward or cancelled. The long-term financial planning consist of three items: • Core operating budget, • Canada's contribution to the shared costs of the ISS (Common Systems Operations Costs [CSOC]), and • Funds required for exceptional tasks or items, such as the manufacturing of spare parts, updating of some equipment and software, and rate increases in current contracts. With regard to the above, and following the renewal of Canada's commitment to the ISS for the period up to 2020, we expected to find a document in support of this long-term planning. Estimates for the core operating budget are included in the Integrated Planning System (IPS) for a ten-year period. Canada's contribution to the shared costs of the ISS (CSOC) has been set at $94.7M, and negotiations are under way to determine how the commitment to make this contribution will be honored. A document outlining various options is currently being drafted. However, the funds to be set aside for exceptional tasks and items are not included in the core operating budget. The funds required for exceptional tasks and items depend for the most part on the CSA's annual procedure for obtaining additional funds (B4). According to this procedure, the CSA reallocates available funds during the year to meet the requirements of unfunded initiatives. The cost of many exceptional tasks and items is related to Canadian

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		Space Station Program risk materialization and to mitigation measures to be implemented. There is currently no document outlining all of these potential costs for the maintenance of operations up to 2020. Given that the available financial resources will be limited over the next few years, we believe that management should have an overview of the financial requirements associated with the renewal of Canada's commitment up to 2020, and that this overview would be a useful tool for CSA decision making. **Human resources planning** A human resources plan supporting the realization of operations was drawn up and implemented. A number of activities, mainly involving the recruiting and hiring of engineers, were carried out over the past two years to ensure that the organization had the necessary employees to achieve the objectives. However, there is still a large number of vacant positions in the program. We observed that in 2012, 21% (19 out of 90) of the positions were either vacant or had an incumbent on extended leave. Since there is now a freeze on staffing at the CSA, program management plans to use acting appointments to fill some positions temporarily. In our opinion, if this situation were to continue, it could pose a risk to the achievement of the program's expected outcomes. **Risk identification and management** We observed that program management identifies and manages risks that might interfere with achievement of the expected outcomes. A risk registry was developed and is used to compile an inventory of identified risks and continually monitor them. This registry displays the observed risk level (low, medium, high) for each element, as well as the planned mitigation strategies. In addition, as previously mentioned, a technical analysis document for MSS certification up to 2020 and 2028 is being developed in order to identify the risks related to maintenance of some of the Canadian MSS equipment. However, we identified some possible improvements that could be made in the documentation of the risk analysis process. According to the information obtained, the risk analysis process for the various ISS components is carried out using a score sheet that assigns a score of 1 to 5 to the probability of the risk materializing and to the level of severity of the potential consequences. Although we observed that the risk levels (low, medium, high) were indicated in

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		the registry developed by program management, we also observed that the scores were not displayed; we did not find any scores or rationales supporting the analysis of each risk. The documentation of this process would clarify the condition observed and demonstrate that the risk analysis was based on a well-defined and meticulous scoring procedure.
	Cause	**Financial resource planning** To date, program management has not been asked to produce a planning document setting out all of the anticipated potential costs related to extending Canada's participation in ISS activities to 2020. **Risk identification and management** The documentation of the score assigned to the probability of a risk materializing and the level of severity of the potential consequences was simplified to lighten the administrative burden of the process.
	Effect	**Financial resource planning** Long-term planning becomes a more difficult task if an overview of all the potential costs that may have to be incurred to meet Canada's commitments with respect to extending its participation in ISS activities up until 2020 is not available. **Risk identification and management** It is not possible to show, with supporting documentary evidence, the scoring procedure that was used to determine the risk levels assigned to ISS-related activities.
RECOMMENDATION	**Financial resource planning** 1. Consolidate in a document the information setting out all of the anticipated exceptional costs for extending Canada's participation in ISS activities to 2020. **Risk identification and management** 2. Improve the documentation of the risk analysis process particularly regarding the assessments of probabilities of risks materializing and potential impacts on the achievement of expected outcomes.	
IDENTIFIED RESPONSIBILITY	Organization	Space Exploration Operations and Infrastructure Directorate
	Title	Director, Space Exploration Operations and Infrastructure Directorate

<table>
<tr><td colspan="3">Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.</td></tr>
<tr><td>MANAGEMENT RESPONSE</td><td colspan="2">The recommendations proposed are reasonable and action is already underway to address them.

Financial resource planning

1. The budget requirements for the extension of the ISS program are already carried in CSA's IPS system until the planned end of the program in 2020. These allocated costs cover the basic operation of the ISS program within CSA until 2020. The values in IPS do not yet address the additional costs related to common systems operations costs (CSOC) that will be incurred from 2016 to 2020 nor any allocation for program risks that may require mitigation or realization.

CSA is obligated to find $94.7M to cover its CSOC costs and the preferred approach is to agree with NASA on a list of products/activities that CSA can contribute to the ISS Program that will offset the obligation. As a result, a document entitled "ISS CSOC Framework" has been developed to address the new activities that will be undertaken to offset additional ISS costs related to the 5 year extension. The CSOC Framework document provides that CSA must agree on additional work to be performed in order to meet this obligation, define this additional work and establish related costs. The ultimate conclusion of this negotiation will be a list of CSA work that will be documented in IPS against the CSOC obligation.

A complete cost forecast for ISS Assembly and Maintenance to 2020 could be derived by summing the planned budgets currently in IPS, the potential CSOC activities described in the CSOC framework, and finally the exceptional costs that could materialize from the present to 2020. Currently, these exceptional costs are not recorded. Many of these exceptional costs will be the result of the existing CSSP risks which could materialize or require mitigation in the future. Since programs in phase E do not have a dedicated financial risk allocation, it is proposed that SEOI would develop a document, to be updated annually, which would provide a forecast of these exceptional costs to 2020. With this document it would then be possible to have a complete cost forecast for the CSSP.

Risk identification and management

2. The action to improve the manner in which risks are managed was already underway during the audit. A new process in line with SSP 50175 (ISS Program Risk Management Process) is in development. This process exceeds the existing CSA risk Management Policy.</td></tr>
<tr><td rowspan="2">MANAGEMENT ACTION PLAN</td><td>Action plan details</td><td>Timetable</td></tr>
<tr><td>Financial resource planning</td><td></td></tr>
</table>

Audit objective:	**Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.**	
	1. The development and implementation of the CSOC Framework to finalize the additional CSA activities that will be undertaken to offset the full CSOC obligation of $94.7M is underway. At present, it is divided into 2 phases. Phase 1 is expected to complete by 31 December 2012. Phase 2 will involve more detailed activity and discussions will likely be subdivided to incrementally identify and agree additional CSA products or activity as CSOC offsets. Ultimately, it could extend to 31 December 2015. The schedule is managed within the CSOC framework.	Dec. 31st 2012 and Dec. 31st 2015
	SEOI will develop a document, to be updated annually, which will provide a forecast of the exceptional costs associated with the ISS Assembly and Maintenance to 2020.	Nov. 30th 2012
	Risk identification and management	
	2. The risks will be documented and baselined with SSP 50175 by 31 October 2012.	Oct.31st 2012

2.3.2 Controls for monitoring operations and resources

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.		
FINDINGS	Criterion 2	The operations and resources used are controlled.
	Condition	**Organization of work, division of responsibilities and delegated authorities** In our opinion, the organization of the work and the division of responsibilities and delegated authorities contribute to the effective delivery of the activities. The organization of the work is divided in four sectors. Each sector's responsibilities relative to the management of activities, the supervision of contractual agreements and signatures of the scientific authorities are clearly defined and intended to achieve all of the expected outcomes of the program. A manager is responsible for each sector and reports to the Director, Space Exploration Operations and Infrastructure Directorate. All Canadian Space Station Program (CSSP) operations are the responsibility of the Director General, Space Exploration. Financial authority is delegated to program managers according to the CSA delegation of financial authority chart in effect. **Approval and compliance of expenditures** In our opinion, the spending authorities are monitored properly and the expenditures are approved and carried out in accordance with the acts, regulations and guidelines. For this criterion, a sample of 35 transactions totalling $8.2 million and representing about 20% of the program's expenditures between March 1, 2011, and February 29, 2012, was selected and reviewed. The sample had the following characteristics: • 18 transactions involving the purchase of professional services for technical support activities, including 9 transactions of over $200,000; • 10 travel expenditure transactions; • 2 hospitality expenditure transactions; and • 5 other types of expenditure transactions. The auditors used their judgment in selecting the transactions. The professional services transactions were selected in such a way as to include as many different work packages as possible. The distribution of the transactions was proportional to the financial resources of each program sector. Based on our review of this

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.		
		sample, we observed that the 35 expenditure transactions were approved in accordance with the delegation of financial authority instrument in effect and complied with the acts, regulations and guidelines. In the case of just one transaction, there were some questions about the eligibility of a travel expenditure, however, appropriate controls were applied and the required clarifications were obtained following submission of the initial claim. **Recording of expenses** In our opinion, the financial transactions are recorded in accordance with the accounting rules in effect. To evaluate this sub criterion, we reviewed the descriptions of all transactions recorded between March 1, 2011 and February 29, 2012 in order to identify any exceptions, and we reviewed the coding of the 35 expenditure transactions selected for the previous sub criterion. During this review, we did not find any situations indicating improper recording of transactions. We also reviewed the amortization of the program's capital assets and determined that the calculations were done properly. **Monitoring of activities** With regard to operations management, we observed that program management has set up management procedures and a set of effective controls for monitoring activities. We also observed that the activities are documented, reviewed and approved. To evaluate this sub criterion, we identified the management practices and tools used by the Mission Development sector and the Logistics and Sustaining Engineering sector. Most of the directorate's budget goes to these two sectors, which allocate approximately $29 million annually in the form of contractual agreements for the purchase of professional services related to program technical support. We observed that these two sectors had implemented procedures to continually monitor the progress made in activities. In addition, several management tools have been developed and are used by managers to plan and monitor activities. For example, for the Logistic and Sustaining Engineering activities, we found that at all stages; program employees are responsible for determining the progress of the work and certifying that the completed work meets the applicable standards. These employees are identified as points of contact (POCs). This certification of the work is done each month and covers all work packages. The controls set up to monitor activities were audited using the sample described on the previous page. We reviewed the controls

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.		
		applied to the 18 expenditure transactions for the purchase of professional services related to technical support. For each transaction, we found that the appropriate controls had been implemented and that certification under section 34 of the *Financial Administration Act* (FAA) (i.e. certification that the goods and/or services have been received) had been done in accordance with the stipulated certification procedure. We also did a detailed review of the documentation for two work packages completed in connection with the Logistics and Sustaining Engineering activities. We observed that these activities were well documented and included information on problems that had arisen, action plans drawn up and progress made. We also observed that two other functions were involved in the monitoring of activities: Public Works and Government Services Canada (PWGSC) and the Security and Mission Assurance (S&MA) group. PWGSC services are used to facilitate management of the contractual agreements. PWGSC employees help to establish work packages with the suppliers and then verify compliance with the contract terms and conditions. The Security and Mission Assurance (S&MA) group, an independent entity within the CSA, provides support and conducts a number of technical assessments related to ISS maintenance and assembly operations. The objective of the assessment activities carried out by this group is to ensure that Canada's contribution to the ISS meets the program requirements and that the CSA is achieving the established mission objectives. This group carries out monitoring activities by reviewing all of the program activities to ensure, among other things, the protection of individuals and the quality and security of the equipment and the environment. All the controls in place lead us to conclude that the risk of activities not being monitored is low.
	Cause	N/A
	Effect	N/A
RECOMMENDATION	N/A	
IDENTIFIED RESPONSIBILITY	Organization	N/A
	Title	N/A

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.			
MANAGEMENT RESPONSE	N/A		
MANAGEMENT ACTION PLAN	Action plan details		Timetable
		N/A	

2.3.3 Accountability reporting and performance measurement

Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.		
FINDINGS	Criterion 3	There is accountability reporting for the entity's operations and the results are measured.
	Condition	**Accountability reporting** We observed that there is accountability reporting for all of the program activities. For internal accountability reporting purposes, the planned activities are identified at the beginning of the year. This is done as part of the CSA's integrated management cycle, as indicated in Section 2.3.1 of this report (under the "Financial resource planning" sub criterion). Program management submits detailed operational plans describing the activities to be carried out in the following year, the resources to be allocated to the activities, the desired outputs and the performance targets. A follow-up is done mid-year and at year-end. We observed that program management had completed this process for 2010-2011 and 2011-2012 and that start-of-year entries had been made for 2012-2013. With regard to external accountability reporting, as is the case for all CSA activities, accountability reporting for the program is provided to the central agencies in the Departmental Performance Report (DPR), which is prepared using information from the Performance Measurement Framework (PMF). In that regard, the Management Accountability Framework (MAF) assessment report from the 2011-2012 round recommends a reformulation of the indicator used in the PMF for sub-sub activity (SSA) 1.2.1.1 "ISS Assembly and Maintenance Operations Program**."** Presently, this indicator reads as follows: "The Mobile Service System (MSS) fulfills

Audit objective:	Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.	
		its operational requirements*".* **Performance Measurement (PM) Strategy** A PM Strategy is being developed. This strategy will enable monitoring the program's results systematically, producing useful and relevant reports for decision making, and gathering credible and reliable information in order to provide effective support for program evaluation. According to the Directive on the Evaluation Function in effect since April 1, 2009 (section 6.1.4), "Developing, implementing and monitoring ongoing performance measurement strategies for programs is the responsibility of program managers." To comply with this directive, a final version of the PM Strategy should have been drafted and implemented at the same time that the new CSA Program Activity Architecture (PAA) was adopted on April 1, 2011. The time frame established by management for implementing the PM Strategy is October 2012. **Corrective measures taken if necessary** The results for the operational performance targets show that program carried out 100% of the expected tasks associated with ISS assembly and maintenance operations. Therefore, no corrective measures were necessary.
	Cause	**Accountability reporting** The CSA established a new PMF following the recent changes to the PAA. Some indicators must still be clarified, explained and validated. **Performance Measurement Strategy** Development of all of the CSA's performance measurement strategies began last year and most of them are still in draft form.
	Effect	**Accountability reporting** If the TBS considers the PMF performance indicator to be insufficiently clear, it will also consider the Departmental Performance Report to be insufficiently clear, because it is the tool used for accountability reporting to Parliament. **Performance Measurement Strategy** In the absence of a PM Strategy, the information required to support the decision-making process or to undertake a program evaluation may not be available when needed.

<table>
<tr><td colspan="3">Audit objective: Determine whether the management framework in place enables the program to achieve its objectives and to comply with relevant policies, regulations and guidelines issued by the CSA and the central agencies.</td></tr>
<tr><td>RECOMMENDATION</td><td colspan="2">Accountability reporting
3. Discuss with the TBS in order to provide more specific information regarding the indicator used in the PMF for sub-sub activity “ISS Assembly and Maintenance Operations Program” (1.2.1.1) of the PAA, and review the indicator if necessary.
Performance measurement strategy
4. Complete the development of the program’s PM Strategy and implement it.</td></tr>
<tr><td rowspan="2">IDENTIFIED RESPONSIBILITY</td><td>Organization</td><td>Governance, Planning and Performance (GPP) Directorate (recommendation no.3)
Space Exploration Operations and Infrastructure Directorate (recommendation no. 4)</td></tr>
<tr><td>Title</td><td>Director, Governance, Planning and Performance (GPP) Directorate (recommendation no. 3)
Director, Space Exploration Operations and Infrastructure Directorate (recommendation no. 4)</td></tr>
<tr><td>MANAGEMENT RESPONSE</td><td colspan="2">Accountability reporting
3. Further to the TBS’s comments concerning the indicator outlined in the PMF, the GPP Directorate submitted a new version of the indicator to the TBS analysts on August 17, 2012.
SEOI will support any redefinition of the sub sub-activity as required.
Performance Measure Strategy
4. The PM Strategy for ISS Assembly and Maintenance is in development.</td></tr>
<tr><td rowspan="2">MANAGEMENT ACTION PLAN</td><td>Action plan details</td><td>Timeline</td></tr>
<tr><td>Accountability reporting
3. Following discussions with the TBS analysts and after the program manager’s approval, the new indicator will be included in the PMF in the fall of 2012.
Performance Measure Strategy
4. The PM Strategy for ISS Assembly and Maintenance has been written and is in review by the Audit and Evaluation and Corporate Management directorates. The final activity remaining is the coordination of the intermediate and ultimate outcomes with the other PM Strategies within Space Exploration. This activity is out of SEOI’s control but it is expected to conclude by 31 Dec 2012</td><td>Nov. 1st, 2012

Dec. 31st, 2012</td></tr>
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