



Canadian Space
Agency

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Management Framework of the Space Operations Branch

Audit Report

PROJECT #05/06 01-03

**Prepared by the
Audit and Evaluation Directorate**

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EXECUTIVE SUMMARY

The objective of this audit project was to evaluate the extent to which elements of the management framework of the Space Operations Branch (except the DFL) concerning governance, operations and information systems allow the Branch to fulfil its mandate, carry out operations effectively, efficiently and economically while complying with legislative and policy requirements, and protect and account for the use of resources.

We are of the opinion that the Space Operations Branch has a management framework, which in a general way, is to achieve the objectives of the organization. Nevertheless, we would like to make comments and recommendations to management concerning management practices related to planning and accounting both at the Space Operations Branch and throughout the Agency, the purpose being to ensure efficiency and compliance with related requirements.

Operational activities carried out by the Satellite Operations and Operations Engineering directorates (and by other Agency sectors) are usually related to planning elements that are not represented in the Program Activity Architecture (PAA). According to the Treasury Board Secretariat (TBS) Management, Resources and Results Structure Policy (MRRS), the Agency is required to have a PAA that represents the current management structure and serves as a framework for performance measurement and reporting of activities at all levels. It has to be noted that the PAA and the associated performance measurement frameworks, which were in force when we carried out this audit, were approved by TBS before the diffusion of the December 2006 instructions aiming at the full implementation of the MRRS.

The MRRS also requires that a demonstration be provided that programs and activities contribute to the Agency's strategic outcomes. The development of Results-based Management and Accountability Frameworks (RMAFs) is a good way to achieve this.

The work plan is an integral tool of the Agency's management framework. It is used for internal and external reporting and must enable us to measure the performance of all PAA components with the help of a results-measurement plan that goes beyond outputs. For considerations of effectiveness and efficiency, the work plan has to include relevant elements that stem from the development of an RMAF and be sufficiently detailed to fulfil identified requirements.

The organization of work, sharing of responsibilities and delegation of authorities have to be brought into line and be accurately reflected in work descriptions so as to ensure that the term *manager* is attributed only to positions that meet the accepted definition. This will ensure that expenditures are committed only by incumbents of positions that have been delegated the proper authorities.

Some administrative practices related to the identification of expenditures and accounting of financial operations will have to be reviewed so as to improve the quality of information recorded in the Agency's management information systems and financial statements.

The operation of Radarsat-1 generates significant revenue. Some mechanisms should be applied to ensure all amounts owing really have been received.

A review of program performance is paramount in a results-based management context. Significant effort will have to be made to implement a formal process whereby program measurement is reviewed on a regular basis. This is the responsibility of the Program Review Advisory Board (PRAB). In addition, current performance measurement strategies will have to be reconsidered so that they measure results in keeping with the MRRS.

This internal audit was carried out in accordance with the Treasury Board Policy on Internal Audit and the IIA (Institute of Internal Auditors) Standards for the Professional Practice of Internal Auditing. In our professional opinion, the audit procedures followed and evidence gathered were sufficient and appropriate and support the accuracy of the conclusions in this report. The conclusions are based on a review of the situations in question using established audit criteria.



DESCRIPTION OF THE MANDATE

1.0 INTRODUCTION

1.1 AUDIT PROJECT RATIONALE

This audit project is part of the 2005–2006 Audit Plan approved by the Audit Committee.

1.2 AUDIT PROJECT OBJECTIVE

The objective of this audit project is to determine the relevance of the key elements of the management framework of the Space Operations Branch. The objectives of these elements include:

- Achieving operational objectives and implementing programs;
- Using resources effectively and efficiently;
- Ensuring compliance with acts, regulations, policies, guidelines and procedures;
- Safeguarding assets;
- Ensuring the accuracy and integrity of information.

Appendix A provides a more detailed description of the audit objectives and criteria.

1.3 SCOPE

The audit project covered Space Operations Branch systems and procedures related to:

- Operations planning, including the identification, selection, approval, justification and allocation of resources for a range of program elements;
- Operations performance;
- The monitoring of operations and evaluation of performance;
- Reporting.

The David Florida Laboratory (DFL) Directorate is not included in this audit project, as it was recently the subject of its own audit, which was similar in nature and scope (see report dated November 2005). Information about the DFL Directorate in the following sections has been included simply to provide a better picture of the Space Operations Branch as a whole.

1.4 METHODOLOGY

This audit engagement was carried out in accordance with audit standards set forth in the Treasury Board Secretariat (TBS) Policy on Internal Audit, which requires that audit objectives be based on audit criteria.

Audit standards also require that the audit engagement be carried out in a structured manner following a process that includes three phases:

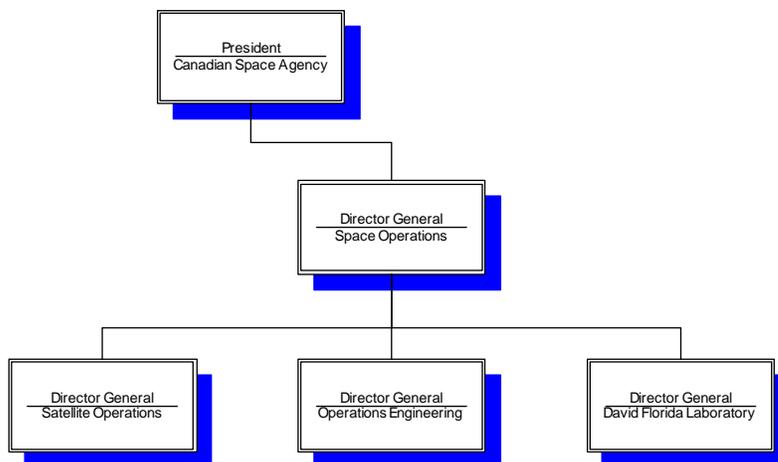
- Preliminary planning and review;
- Performance;
- Reporting and disclosure of results.

Various audit procedures were used, including interviews with employees and reviews and analyses of documents, records and reports.



1.5 THE ORGANIZATION AND ITS RESOURCES

At the time of the audit the Space Operations Branch reported to the President of the Agency and was made up of the Satellite Operations, Operations Engineering and David Florida Laboratory directorates. Since the May 2007 reorganization, the Satellite Operations and Operations Engineering report to the Director general, Operations and Assets while the David Florida Laboratory reports to the Director general, Space Programs.



In the 2005–2006 fiscal year, the Space Operations Directorate allocated almost \$69 million to its operations. TABLE 1 shows authorized positions and FTEs used by each constituent entity, and TABLE 2 provides an overview of financial resources used broken down by Parliamentary vote.

Table 1

Human resources	Situation 2005-2006				Total
	Office of the DG	DFL	Satellite Operations	Operations Engineering	
Authorized positions	3.0	57	24	91	175.0
Full-time equivalents used	3.0	45.3	18.3	77.52	144.1

Source: October 6, 2005, organization chart

Source: SMS

TABLE 2 lists revenues in excess of \$1.7 million from user fees collected for environmental testing and space hardware assembly services and \$3 million in royalties from the sale of Radarsat-1 data.

Table 2

Parliamentary votes	Actual expenditures 2005-2006				Total
	Office of the DG	DFL	Satellite Operations	Operations Engineering	
101- Votes for op. exp. - Salaries	284,924	3,281,998	1,744,234	7,097,637	12,408,793
201- Votes for op. exp. - Other	33,566	3,280,472	9,329,839	33,180,615	45,824,492
301- Votes for capital exp. - Controlled capital		2,210,094	843,862	5,273,572	8,327,528
Total - not including EBP	318,490	8,772,564	11,917,935	45,551,824	66,560,813
EBP	51,734	647,777	335,237	1,341,426	2,376,174
Total - including EBP	370,224	9,420,341	12,253,172	46,893,250	68,936,987
Revenues		1,741,722	3,144,312		4,886,034

Source: SIFM



TABLE 3 shows the organizational structure of each of directorate and provides another level of detail on the use of resources by work unit.

Table 3

Financial centres		Actual expenditures 2005-2006				Total
		<i>Office of the DG</i>	<i>DFL</i>	<i>Satellite Operations</i>	<i>Operations Engineering</i>	
4100	Director General, Space Operations	318,490				318,490
4200	Director - DFL		1,798,755			1,798,755
4201	Structural Qualification		972,227			972,227
4202	Thermal Qualification		1,752,648			1,752,648
4203	Radio-frequency Qualification		1,105,950			1,105,950
4204	Operational Support Services		533,736			533,736
4205	Building Operations and Revitalization		1,835,186			1,835,186
4206	Client Service and International Marketing		466,172			466,172
4207	Technical Development Test		307,890			307,890
4300	Director - Space Operations			653,432		653,432
4301	Operational Planning			2,023,491		2,023,491
4302	Systems Operations			7,570,882		7,570,882
4303	Mission Management			1,670,130		1,670,130
4400	Director - Operations Engineering				1,655,737	1,655,737
4401	Mission Operation				4,887,021	4,887,021
4402	Training				1,834,628	1,834,628
4403	Logistics and Support				31,431,282	31,431,282
4404	Ground Segment				4,052,190	4,052,190
4405	Payload Integration				1,166,273	1,166,273
4406	Houston Liaison Office				524,693	524,693
Total - not including EBP		318,490	8,772,564	11,917,935	45,551,824	66,560,813

Source: SIFM

1.6 MANDATE AND FUNCTIONS OF THE ORGANIZATION

The organizational review carried out in 2002–2003, which led to the Agency's current work organization structure, confirmed the nature and scope of responsibilities of the Space Operations Branch. Essentially, the Branch is mandated to maintain testing facilities and operate ground and space-based components.

In light of the Program Activity Architecture in 2005–2006, expenditures were recorded by activity element in the manner below.

Table 4

Activity elements	Actual expenditures 2005-2006				Total
	Office of the DG	DFL	Satellite Operations	Operations Engineering	
2036 Space Op. Prog. Management - SATCOM	28,094				28,094
2126 Space Op. Prog. Management - EO	158,836				158,836
2127 Space Op. Prog. Management - SSE	131,432				131,432
2136 EO SC Mission Project	128				128
2023 DFL - SATCOM		911,296			911,296
2040 Project Dev. & Payload Demo. - SATCOM		12,015	5,215		17,230
2122 DFL - Projects - EO		4,660,225			4,660,225
2123 DFL - Projects - SSE		3,162,039			3,162,039
2158 Astronomy		12,968			12,968
2170 Life Science		2,263			2,263
2183 Astronomy Projects		7,922	4,551		12,473
2186 Planetary Exploration Projects		3,836	4,551		8,387
2100 Advanced Imager Mission Development			43,132		43,132
2109 S&M Sat Bus			10,430		10,430
2124 Science Programs - EO			10,603		10,603
2137 Advanced Imager Projects			97,577		97,577
2138 Routine Satellite Operation			2,211,453		2,211,453
2139 Radarsat-1 Operation			7,819,741		7,819,741
2141 Scien Op Missions			1,692,583		1,692,583
2166 Planetary Exploration			5,296		5,296
2174 S&M Sat Bus - SSE			10,430		10,430
2175 STRP - SSE			(2,178)		(2,178)
2184 Life Science Projects			4,551		4,551
2187 Space Station Operation				44,739,548	44,739,548
2190 Life Science Mission Operation				85,662	85,662
2191 Physical Science Mission Operation				725,894	725,894
2193 Prog. Management - CSSP				720	720
Total - not including EBP	318,490	8,772,564	11,917,935	45,551,824	66,560,813

Source: SIFM

1.7 OPERATING COSTS

To carry out the Agency's mandate and activity elements described above, the various organizations comprising the Space Operations Branch obtained the goods and services and incurred the payroll expenditures detailed in TABLE 5.



Table 5

Nature of expenditures	Actual expenditures 2005-2006				Total
	Office of the DG	DFL	Satellite Operations	Operations Engineering	
Labour costs	284,924	3,281,998	1,744,234	7,097,638	12,408,794
EBP	51,734	647,777	335,237	1,341,426	2,376,174
Labour Costs (including EBP)	336,658	3,929,775	2,079,471	8,439,064	14,784,968
Travel Expenses	32,109	94,801	191,726	630,342	948,978
Relocation				287,028	287,028
Postage, Shipping and Courier Services		13,133	19,074	9,836	42,043
Telecommunications Services	1,331	100,896	248,965	121,990	473,182
Advertising Services		7,654		8	7,662
Printing and Editing Services		10,400		402	10,802
Professional Services		229,992	7,519,358	31,596,191	39,345,541
Educational and Training Services		49,894	21,167	97,982	169,043
Other Services		1,333,293	7,527	318,823	1,659,643
Temporary Help Services		92,711		75,133	167,844
Land and Building Leasing		42,471	46,153	85,201	173,825
Building and Structural Repairs		269,411			269,411
Machinery and Equipment Repairs		354,420	222,804	303,213	880,437
Utilities		423,151	14,551		437,702
Materials and Supplies	126	487,773	26,996	45,819	560,714
Machinery, Materiel and Consumable Items		1,372,052	581,840	2,569,034	4,522,926
Salaries - Students		33,698	81,702	186,771	302,171
Land, Buildings and Structures (Assets)		1,163,476	843,862		2,007,338
Stock				1,662,380	1,662,380
Inter-sector revenues/expenditures		(588,660)	347,976	469,024	228,340
Advances				(4,991)	(4,991)
Total - including EBP	370,224	9,420,341	12,253,172	46,893,250	68,936,987

Source: SIFM

AUDIT RESULTS



2.0 OPERATIONAL PLANNING

We expected to find evidence of management initiatives providing assurances that the operations of the Space Operations Branch are planned. Specifically, we expected to find:

- A formal and structured planning process;
- Approvals given by the proper authority;
- Resource allocation based on expenditure forecasts;
- Clearly identified responsibilities;
- A budgetary control framework;
- A reporting framework.

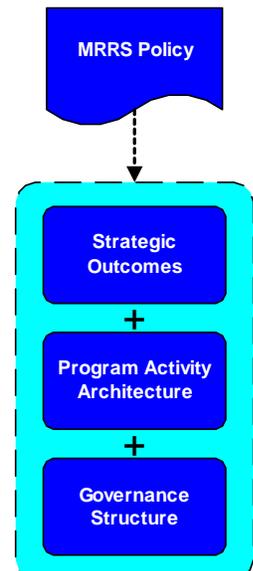
Operational planning (as distinguished from strategic planning) at the Agency is based on the development of work plans. We therefore tried to determine whether operational planning, formulated through the development of work plans, at the Space Operations Branch met the above expectations, which are based on sound management principles.

A standardized framework throughout the government

We also ensured that the planning process in place was consistent with TBS requirements in the Management, Resources and Results Structure (MRRS), the reason being that the MRRS is used to provide "... a standard basis for reporting to citizens and Parliament on the alignment of resources, program activities and results..." As a requirement, the MRRS must include:

1. Clearly defined and measurable strategic outcomes;
2. A Program Activity Architecture that is articulated at a sufficient level of materiality to reflect how a department allocates and manages the resources under its control to achieve intended results;
3. A description of the current governance structure, which outlines the decision-making mechanisms, responsibilities and accountabilities of the department.

Under the MRRS policy, the Agency must have a Management, Resources and Results Structure that is current and consistent with the way it manages diverse programs and related activities and allocates resources to achieve expected results.



2.1 PROGRAM ACTIVITY ARCHITECTURE

The Program Activity Architecture (PAA) is the first step in the development of an MRRS. The PAA is an **inventory of all programs and activities** carried out by a department, and the TBS expects the PAA to:

- provide a framework in which planned resource allocations are linked to each activity at all levels and against which financial results are reported;
- provide a framework in which expected results and performance measures are linked to each activity at all levels and against which actual results are reported; and
- serve as the basis for resource allocation.

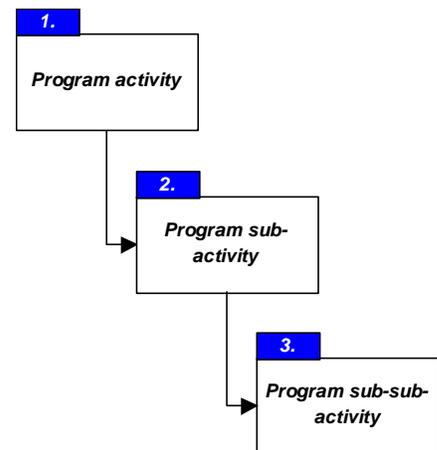
PAA:
***an inventory of
programs and
activities***

The TBS also expects departments to record objectives, expected results, results indicators and delegated responsibilities in the Expenditure Management Information System (EMIS) for each level of their PAA. This information is used in the compilation of financial and non-financial data for the preparation of the Report on Plans and Priorities (RPP) and Departmental Performance Report (DPR), which are the principle tools used in reporting to Parliament.

Reported and approved PAA – Three-tiered Architecture

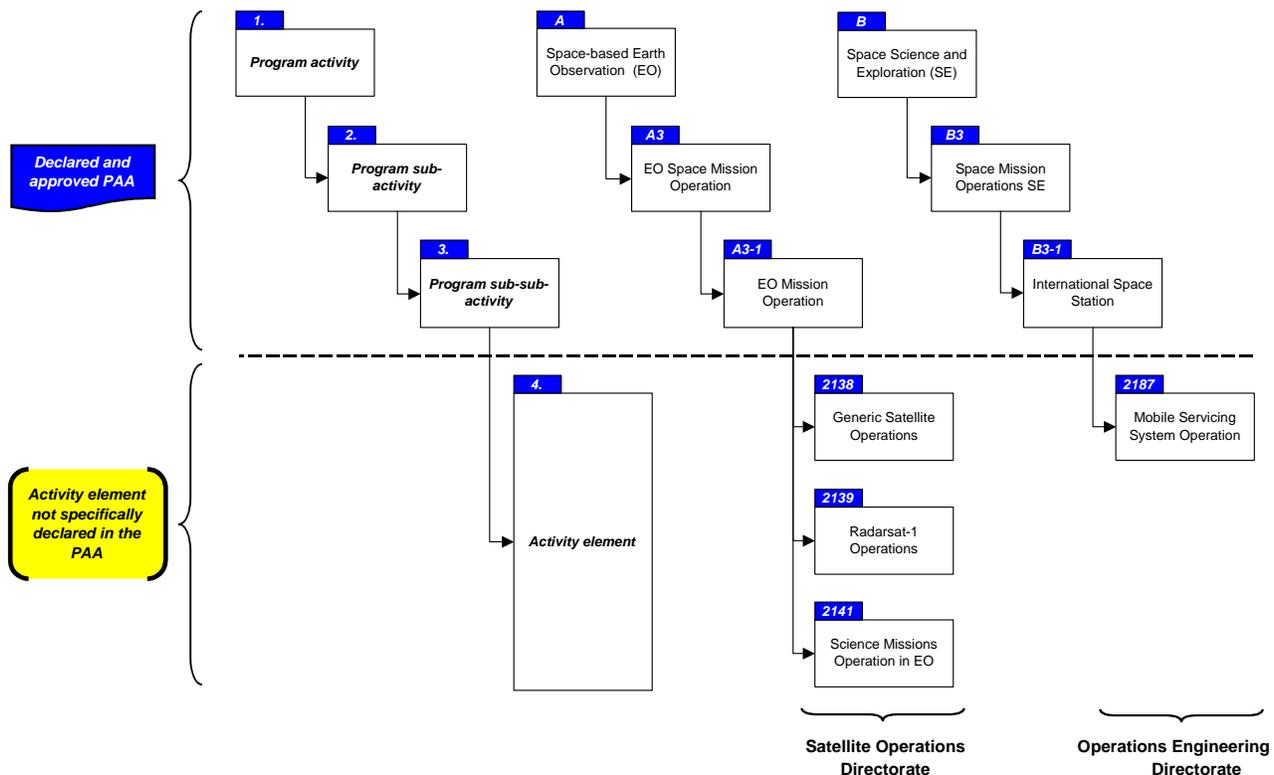
The PAA reported to and approved by TBS and recorded in EMIS consists of a three-tiered architecture. The **first level** represents five program activities (six since April 1, 2006) that, aside from Corporate Services and Infrastructure, reflect the core thrusts of the Canadian Space Strategy. The **second level** sub-divides program activities, namely those related to space, into three program sub-activities: Enabling Research, Space Mission Development and Space Mission Operations. The **third level** is made up of program sub-sub-activities, which define priority areas in greater detail.

The reader must know that the PAA and the associated performance measurement frameworks, which were in force in 2005–2006 as well as the changes made for 2006–2007, were approved by TBS before the diffusion of the December 2006 instructions aiming at the full implementation of the MRRS.



Management structure of the Agency

We found that the operational activities at the Space Operations Branch are linked to activity elements that are not part distinctively of the reported and approved PAA. The diagram on the next page illustrates the situation by showing the main activity elements of the Satellite Operations and Operations Engineering directorates, which make up the majority of the directorates' operational activities. The diagram also provides an overview of their priority level in relation to the reported PAA. In addition, Table 4 on page 7 lists all activity elements to which resources were allocated in 2005–2006.



Upon review of the various planning and management instruments, including the Integrated Planning System (IPS), the Ten-Year Plan, the Operating Plan, the Accounting Plan and the Integrated Financial/Materiel System, we find that operations are usually managed at the level of activity elements. **It is at this level that decisions are made, approvals are given and resources are allocated.** In these circumstances, sound management principles dictate that these activity elements should be measured in terms of performance so as to regularly assess their relevance, whereas the MRRS requires them to be reflected in the Agency's PAA.

We also found that there are situations in which decisions are made at a level that is even lower than the activity element level. For example, with regard to Activity Element 2141 – Science Missions Operation in EO, decisions are not made at that level, but, rather, at the level of each constituent science mission, as is the case with the SCISAT science mission.

This situation is not specific to the Space Operations Branch, but widespread throughout the Agency's operations. The following activity elements, whose delivery is the responsibility of other Agency sectors, are other examples of programs that have not been taken into account in the reported and approved PAA.

- 2077 – Space Technologies Research Program – STRP
- 2079 – Space Technologies Development Program –STDP
- 2131 – Earth Observation Application Development Program – EOADP
- 2133 – Government-Related Initiatives Program – GRIP

A review of planning and management instruments also showed that not all of the Agency's grant and contribution programs are part of the PAA. These programs are at the activity element level, meaning they are also excluded from corporate results measurement and accountability processes (see Section 2.3.1 in this regard). If any programs must be included in the PAA, it is grant and contribution programs. They are identified as such in Part II of the Main Estimates, and the Policy on Transfer Payments requires that appropriate measuring and reporting mechanisms be established to measure objectives, for which the PAA is to be used as a framework. Furthermore, if corporate processes do not fulfil this requirement, managers who are responsible for these programs will have to implement parallel performance measurement and reporting systems.

All Agency activities that are deemed to be programs under the MRRS must be included in the PAA. In accordance with the MRRS, this will establish logical links between all activities and strategic outcomes and associate allocated resources with expected and actual results.

RECOMMENDATIONS

PLANNING AND PERFORMANCE DIRECTORATE

- i. Ensure that the Program Activity Architecture is developed in keeping with the TBS Management, Resources and Results Framework (MRRS) while ensuring that the PAA reflects the Agency's current management structure and indicating all levels where performance must be measured.**
- ii. Record relevant data concerning all Program Activity Architecture levels in the Expenditure Management Information System (EMIS).**

2.2 LINKING ACTIVITIES TO RESULTS

Results-based management is a key component of the management framework of the federal public administration. In 2000, the President of the Treasury Board tabled *Results for Canadians: A Management Framework for the Government of Canada*, in which one of the four major commitments aimed at improving management practices in the government focuses on achieving results. In 2003, the TBS released the Management Accountability Framework (MAF), which clearly sets out Treasury Board's expectations of deputy heads in terms of management. The TBS expects information on results and performance to be compiled and incorporated into the decision-making process.

More recently, the MRRS, which came into effect on April 1, 2005, demonstrates the TBS' insistence on providing a framework for the collection, management and reporting of financial and non-financial performance information. Since the MRRS is based on strategic outcomes, departments are required to design PAAs that group related program activities and establish logical links between the activities and their underlying strategic outcomes.

We consulted the PAA and identified the links for the main program sub-sub-activities, to which the majority of activity elements carried out by the Space Operations Branch are related to, and the Agency's strategic outcomes (see table below).



Strategic Outcomes	Sub-sub-activity	
	A3-1 EO Mission Operations	B3-1 International Space Station
1. Environment and Sustainable Development A Space Program that helps Canada understand and protect the environment, and develop its resources in a sustainable manner	✓	
2. Knowledge, Innovation and Economy A Space Program that generates knowledge and pushes innovation, while leading (where appropriate) to increased productivity and economic growth through commercialisation	✓	✓
3. Sovereignty and Security A Space Program that supports recognition of Canada's sovereignty and the security of its communities	✓	✓

Aside from the fact that the PAA links each sub-sub-activity to the strategic outcomes, we were unable to find a demonstration of these links.

At the Operations Engineering Directorate

Since operations management is usually at the activity elements level, as mentioned in Section 2.1, we expected to find evidence of the links justifying their existence. The management team of the Operations Engineering Directorate provided evidence of the link between Activity Element 2187 – MSS Operations and the strategic outcomes through the development of a Results-based Management and Accountability Framework (RMAF). While the PAA links Sub-sub-activity B3-1 to Strategic Outcomes 2 and 3 (see the above table), using a results chain, the management team showed that Activity Element 2187, which is linked to Sub-sub-activity B3-1, contributed only to Strategic Outcome 2 – Knowledge, Innovation and Economy.

On a different note, we found that the objective and expected results of Sub-sub-activity B3-1 in the PAA, which were recorded in EMIS and restated in the work plan summary, are not consistent with what is indicated in the RMAF. The tables below compare objectives and expected results according to the PAA and to the RMAF. Aside from the fact that they are different, the objectives and expected results in the PAA do not focus on outcomes, that is, the consequences of operational activities, as they were properly formulated in the RMAF.

According to the PAA

Program sub-sub-activity	B3-1	International Space Station
Objective	Expected results	
<ul style="list-style-type: none"> Provide required CSA operations, training and engineering services support to the International Space Station (ISS) Program. 	<ul style="list-style-type: none"> CSA robotics operations and engineering services meet International Space Station Program (ISSP) and Canadian Space Station Program (CSSP) stakeholders' expectations in accordance with Inter Governmental Agreement (IGA) and the Memorandum of Understanding with NASA. 	



According to the RMAF

Activity Element	2187	MSS Operation
Objective	Expected results	
<ul style="list-style-type: none"> • Ensure that Canada meets its partnership obligations within the ISSP and that Canada exerts the rights of ownership of the MSS in its operation and utilization of ISS. • Support the development of the Canadian space robotic industries. • Develop the infrastructure within the CSA and Canadian Industry to support future space missions in the domains of: <ul style="list-style-type: none"> • Cooperative Management on international programs • Operations in Space • Training • System Engineering • Logistics and Sustaining Engineering • Ground Systems design and operation 	<p><u>Intermediary Outcomes</u></p> <ul style="list-style-type: none"> • Canada's international commitments for maintaining MSS capabilities over its planned lifetime met in accordance with the IGA/MOU obligations. • Canada's access to ISS Utilization is maintained. <p><u>Ultimate Outcomes</u></p> <ul style="list-style-type: none"> • Canadian infrastructure and expertise in planning and executing robotics operations in support of human space flight is demonstrated at the international level. • Canadian capabilities in space robotics maintained by its industry. 	

At the Satellite Operations Directorate

We found no evidence of the links that should exist between Activity Elements 2138 – Generic Satellite Operations, 2139 – Radarsat-1 Operations and 2141 – Science Missions Operation in EO, which are all linked to Sub-sub-activity A3-1 – EO Mission Operations, and the strategic outcomes.

According to the PAA

Program Activity	A	Space Based Earth Observation
Objective	Expected results	
<ul style="list-style-type: none"> • The program activity objective is to develop and operationalize the use of space Earth Observation (EO) for the benefits of Canadian, especially in the fields of environment, resource and land use management, as well as security and foreign policy. In doing so, the CSA will maintain and expand Canada's leadership in Earth Observation technologies to obtain the timely, relevant and essential information we need to make judicious decisions about our collective future, in collaboration with national and international partners that share our 	<ul style="list-style-type: none"> • Delivery, directly or in partnership, of Space Based EO data, products and services in response to user requirements. <p>In the following areas:</p> <ul style="list-style-type: none"> • Environment • Resource and Land-Use Management • Security and Foreign Policy 	

In other words, we expected to find a results chain showing how operating a satellite contributes to a given strategic outcome. Our discussions confirmed that there is no logic model like the one developed for Activity Element 2187, which would have demonstrated these relationships.



According to the PAA

Program Activity		A3-1	EO Mission Operation
Objective		Expected results	
<ul style="list-style-type: none"> Operate the space and ground segments for Earth Observation (EO) mission operations. 		<ul style="list-style-type: none"> Earth Observation Space Mission Operations meet user/client needs as per mission requirements. 	

Once again, upon review of the objectives and expected results of Program Activity A – Space Based Earth Observation from Space and Sub-sub-activity A3-1 – EO Mission Operations, we find that they focus more on operational aspects than on outcomes (direct consequences).

RMAF: A planning and management tool

The aim of the PAA is to illustrate how a department allocates its resources and the links between programs and strategic outcomes. In addition, the PAA, along with the MRRS, must formulate expected results and performance measurement for each PAA element and level. For programs, the management tool to be used is the Results-based Management and Accountability Framework (RMAF). The TBS feels that the RMAF is a critical planning and management tool and encourages managers to develop and implement RMAFs, regardless of the Policy on Transfer Payments requirements (an RMAF is mandatory when a grant/contribution program is established).

An RMAF provides Program Managers with a concise statement or road map to plan, monitor, evaluate and report on the results throughout the lifecycle of a program, policy or initiative. When implemented, it helps a Program Manager:

- **Ensure clear and logical design** that ties resources and activities to expected results;
- **Describe clear roles and responsibilities** for the main partners involved in delivering the program, policy or initiative;
- **Make sound judgements on how to improve performance** on an ongoing basis;
- **Demonstrate accountability and benefits to Canadians** ; and,
- **Ensure reliable and timely information is available** to senior executives in the department, central agencies and other key stakeholders.

Specifically, an RMAF allows us to ensure that a program is designed well by establishing a logic model and that expected results are clear by developing relevant statements of results, which help fulfil MRRS requirements.

RECOMMENDATIONS

OPERATIONS AND ASSETS BRANCH
PLANNING AND PERFORMANCE DIRECTORATE

To ensure consistency with the MRRS:

- i. **Demonstrate that activity elements and their operational activities are linked to the Agency’s strategic outcomes. To this end, it is recommended that a Results-based**



- Management and Accountability Framework (RMAF) be developed.**
- ii. Ensure that the purpose of performance measurement strategies is to measure the outcomes of the various PAA components in terms of results-based management.**
 - iii. Ensure that the PAA reflects the links, objectives, expected results and indicators developed in the RMAF.**



2.3 THE WORK PLAN

The planning process is designed to establish the basis of reporting. The way the work plan is structured, work plan summaries provide information for the principle external reporting documents: the Report on Plans and Priorities (RPP) and the Departmental Performance Report (DPR).

2.3.1 THE WORK PLAN AND REPORTING

Operational planning is based on work plans. The process is organized in such a way that a work plan summary is developed for each program sub-sub-activity, which is required to have an expected outcome and a few results indicators. As part of annual planning, an operational plan must be prepared describing activity elements and how the performance of these elements will be measured based on outputs and output indicators.

Output

Direct products or services stemming from the activities of an organization, policy, program or initiative

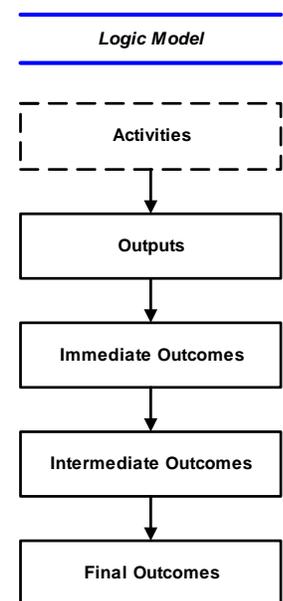
Outcome

External consequence attributed in part to the activities of an organization, policy, program or initiative

Work plan structure

In our opinion, the corporate process is unable to provide all the proper reporting information. As part of the current process, performance in terms of outcomes is measured at the third PAA level, that is, at the level of sub-sub-activities, as formulated in the work plan summary. Nevertheless, the operational plan includes activity elements that should be subject to a form of performance measurement that goes beyond outputs.

Linking a specific element of the logic model (outputs and immediate, intermediate and final outcomes) to a particular planning instrument (operational plan, work plan summary, RPP) does not meet the requirement of measuring the performance of a program or reporting outcomes in terms of related requirements. When a program's performance is measured and reported, both achievements and outcomes must be reported so as to describe progress in terms of the Agency's strategic objectives.



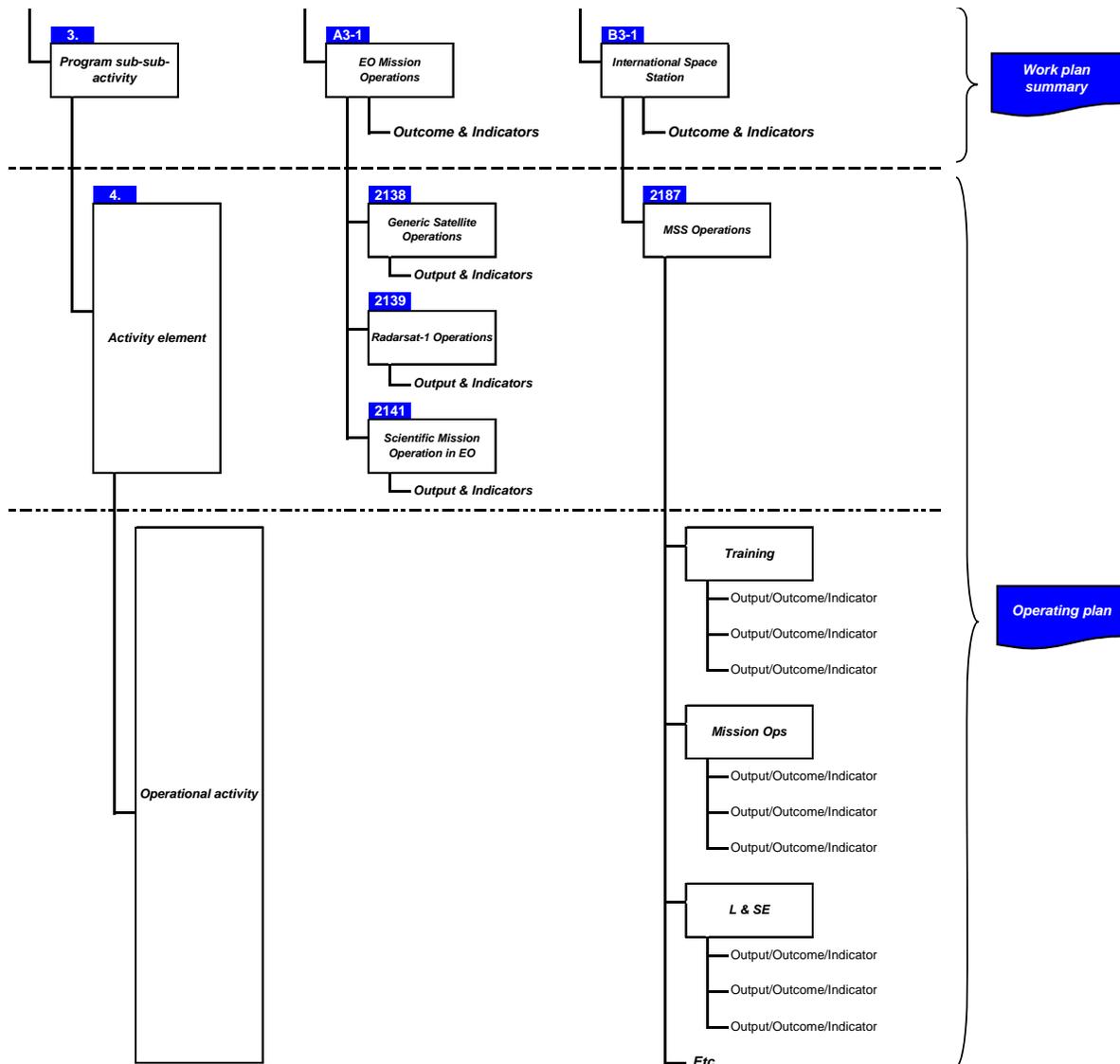
RECOMMENDATION

OPERATIONS AND ASSETS BRANCH
PLANNING AND PERFORMANCE DIRECTORATE

- i. **Since the work plan is used for internal and external reporting purposes according to the MRRS, it must include all relevant elements intended to measure program performance while measuring outcomes beyond outputs.**

2.3.2 THE WORK PLAN: AN INTERNAL MANAGEMENT TOOL

At the Satellite Operations and Operations Engineering directorates, the nature and scope of information in the work plan summaries concerns specifically and only the program sub-sub-activities defined in the PAA. However, we found that the nature and scope of information in the operating plans is very different from one directorate to the next (see chart below).



The information in the Satellite Operations Directorate’s operational plan concerns strictly activity elements, whereas that of the Operations Engineering Directorate includes operational activities it intends to carry out to implement the activity element under its responsibility. Therefore, the Operations Engineering Directorate’s operational plan has become a management tool that is internal to the organization.

It could be convenient for the Operations Engineering Directorate to incorporate management controls that are specific to its operational activities into its operational plan. However, it should not be overlooked that the work plan (the work plan summary and operational plan) is, first and foremost, a corporate mechanism with multiple, specific objectives (approval of planning elements, allocation of resources, identification of responsibilities and measurement of performance). For example, the planning cycle provides for a Mid-year Report and a Year-end Report, in which the information is essentially drawn from work plan summaries and operational plans. These reports also serve as progress reports used to review expenditures and assess the performance of each planning element. A large amount of irrelevant information (at the corporate level) could impact the effectiveness and efficiency of these exercises. The table below provides an indication as to the scope of information in operational plans when they contain information about the organization's operational activities.

Sub-sub-activity & Activity element	Work plan summary		Operational plan	
	Outcomes	Indicators	Outputs	Indicators
A3-1 EO Mission Operations	1	2		
2138 Generic Satellite Operations			1	4
2139 Radarsat-1 Operations			1	2
2141 Science Mission Operations in EO			1	1
B3-1 International Space Station	1	6		
2187 Mobile Servicing System Operations			105	125

RECOMMENDATION

PLANNING AND PERFORMANCE DIRECTORATE

- i. Instructions provided as a framework for the preparation of the work plan should be formulated in order to convey the nature and scope of information to be included in the operational plan. This information should concern operational activities for which internal management of each organization is responsible.**

2.3.3 INCORPORATING RMAFs INTO THE WORK PLAN

When an organization develops a management framework like the RMAF to justify and provide a framework for the management of one of its programs, its aim is to incorporate elements developed in the RMAF into corporate processes. For reasons of effectiveness and efficiency, the organization expects elements defined in the RMAF to be found in the annual work plan if it wants this corporate process to be an extension of, rather than parallel to, its management framework.

The Engineering Operations Directorate produced an RMAF for Space Station Operation (Activity Element 2187). The RMAF includes a performance measurement strategy that measures the various elements of the logic model over time (outputs and immediate, intermediate and final



outcomes). When we reviewed the work plan components (work plan summary and operational plan) related to this activity element, we found that the performance measurement strategy was different from the one developed in the RMAF and that, as indicated in Section 2.2, its sole purpose was to measure outputs in relation to operational activities without measuring immediate, intermediate and final outcomes.

We have already stated that the TBS considers the RMAF to be a critical planning and management tool and encourages managers to develop and implement RMAFs. In this context, when program managers develop a management framework, it is perfectly natural for RMAF elements to be reflected in corporate systems and processes. Since the work plan is the foundation of the Agency's reporting process, it is essential that work plan components reiterate elements of the performance strategy developed in the RMAF. Over the years, the work plan should incorporate relevant elements of the performance measurement strategy which are related to each result that is expected from the program's implementation.

RECOMMENDATION

OPERATIONS AND ASSETS BRANCH

PLANNING AND PERFORMANCE DIRECTORATE

- i. When an RMAF is developed for a given planning element, make sure that corporate systems and processes incorporate the relevant elements developed in the RMAF.**



3.0 PROGRAM DELIVERY

The purpose of the planning process is to identify and choose programs and related activities that are most likely to meet organizational objectives and to allocate financial and human resources. It is then up to management teams to put the appropriate measures in place to ensure the programs and activities are implemented and to monitor spending authorities. These measures concern:

- The organization of work, sharing of responsibilities and delegation of authorities;
- Direction, support and measures provided for staff;
- Controls to ensure compliance with acts, regulations and policies;
- Management controls to measure achievements against objectives;
- The protection of our assets.

3.1 WORK ORGANIZATION AND DELEGATED AUTHORITIES

The Space Operations Branch is mandated to maintain testing infrastructures and operate ground and space-based components. To effectively administer program elements for which it is responsible, the Branch was expected to have:

- An organizational structure that reflects the actual organization of work;
- Well-defined responsibilities;
- Clearly established reporting relationships confirmed by an up-to-date organization chart;
- Relevant work descriptions;
- Delegations of authority that correspond to devolved responsibilities.

By and large, because of the way in which work is organized, responsibilities are shared and authorities are delegated, the administration of program elements at the Space Operations Branch is effective.

We would, however, like to make some observations that need to be brought to the attention of management.

Work descriptions

A work description, which provides details about a given position's work requirements, is approved by a manager. A work description must contain all information that, under the relevant classification standard, is needed to evaluate the position in question.

Work descriptions need to be accurate and up to date, since the current classification system is based on the positions and because the group and level stemming from the evaluation are used to determine employee salaries.

Following a review of the work descriptions of the managers at the Space Operations Branch, we found that many of them are not up to date, for one or more of the following reasons:

- § The work descriptions are inconsistent with the 2003 organizational review, which confirmed the Space Operations Branch's mandate and led to the reorganization that resulted in the transfer of the Operations Engineering Directorate and the devolution of responsibilities;
- § They do not reflect the organizational structure, reporting relationships and current level of resources;
- § They bear the name or are signed by the previous incumbent.

We also noticed that many work descriptions were prepared in 1997, or even 1994, and that many of them have not been signed by the incumbents.

The notion of manager

In the 2005–2006 fiscal year, the Human Resources Directorate developed a learning program for managers. For this initiative, the Agency had to come up with a definition for the term *manager*. The definition that was chosen and approved by the Executive Committee was borrowed from the Public Service Human Resources Management Agency of Canada.

A Manager is an employee who forms part of a management team and is accountable for exercising delegated authority over human and financial resources to accomplish the objectives of the organization in the Public Service of Canada. In addition to the functional responsibilities of their positions, Managers lead people, recognize and reward achievement, manage performance, manage change and promote the corporate values, ethics and culture of the organization.

Delegated financial authority means having Section 34 of the FAA (Spending Authority), and delegated human resources authorities means: making appointments; accepting resignations; and imposing disciplinary measures in conformity with the delegation conferred by the Deputy Head.

More recently, as part of its Policy Renewal Initiative, the TBS issued the Policy on Learning, Training and Development on January 1, 2006, and the Directive on the Administration of Required Training on May 15, 2006. To facilitate interpretation, these policy instruments define the term *manager*. There again, the definition focuses on delegated financial and human resources authorities.

Following a review of work descriptions and delegated authorities in the financial delegation instruments, we found that some positions designated as managers in the organization chart do not correspond with the chosen definition. While some work descriptions (see table below) describe some financial and human resources management responsibilities, we noted that the financial authorities that have been delegated to the incumbents of these positions are limited to ensuring compliance with

section 34 of the FAA. The Director of Satellite Operations is the only one having the authority to initiate expenditures.

Financial authorities
<p>a. <i>Spending authority</i></p> <ol style="list-style-type: none"> 1. Expenditure initiation 2. Commitment authority 3. Contracting authority 4. Authority to confirm performance <p>b. <i>Payment authority</i></p>

WORK DESCRIPTION			
POSITION TITLE	POSITION No	ADMINISTRATIVE FUNCTION	
		Financial management	Employee management
Manager, Flight Operations	OPS - 00516	✓	✓
Manager, Missions	OPS - 00537	✓	✓
Manager, Operations Planning	OPS - 91501	✓	✓

According to the chosen definition, incumbents who do not have the authority to initiate expenditures are not allowed to manage budgets and thus should not be deemed managers.

Managers are responsible for:

- § Ensuring that work descriptions accurately list assigned duties that are carried out;
- § Ensuring the accuracy of work descriptions and keeping them up to date when the nature of the work changes and new duties are assigned;
- § Approving work descriptions and encouraging employees to read and sign their work descriptions to confirm they have read the information;
- § Ensuring that responsibilities and delegated authorities are consistent.

RECOMMENDATIONS

OPERATIONS AND ASSETS BRANCH

- i. **Review employee work descriptions to ensure they are always relevant.**
- ii. **Align work organization, responsibilities and authorities while ensuring that the title *manager* is attributed only to positions that meet the accepted definition.**



3.2 CONTRACT MANAGEMENT

The various organizations acquire products and services from specialized suppliers to assist with program delivery. Table 5 on page 8 provides an indication as to how much was spent on professional services. Of their total resources, the Operations Engineering Directorate allocated 67% (\$31.6 million) and the Satellite Operations Directorate 61% (\$7.5 million) to professional services. Given the nature of operations carried out by these organizations, the spending ratio is comparable from year to year.

We focused on the two principle “as and when required” contracts with a term of over a year. What is unique about this type of contract is that goods and services required from contractors are authorized on an as-needed basis, in accordance with related contract provisions.

We ascertained that the management teams had implemented the proper controls ensuring:

- § Spending is authorized;
- § Certifications are delivered;
- § Spending authorities are monitored;
- § Expenditures are accurately reported.

At the Operations Engineering Directorate

We examined the contract awarded to provide support for the Mobile Servicing System throughout its life cycle and feel that the current management controls are adequate. We noted that:

- § The work approval process provides for approval levels according to thresholds established in the financial delegation instruments;
- § An agreement has been conclude to retain PWGSC’s services to help staff with routine management of the contract, auditing of invoices (from the contractor) and updating of databases used for management purposes;
- § A procedure involving the certification of performance under section 34 has been established to obtain certification from all officials concerned (scientific authorities). Since with this type of contract the contractor is required to work on many tasks at the same time (often dozens), monthly invoicing takes all tasks that are under way into account;
- § Special procedures have been implemented to assign the appropriate accounting code to each task for the purpose of accounting for expenses and assets.

At the Satellite Operations Directorate

As for the other contract regarding the acquisition of satellite control services, we found that:

- § The process for approving tasks under the contract requires that tasks on an as-and-when-required basis be identified and requested by the scientific authority. If the contractor’s proposal is accepted, the scientific authority approves it and gives the contractor authorization to proceed. Even though this process is closely monitored, we noted that the incumbent acting as the scientific authority (Manager, Flight Operations) does not have the financial authority to initiate expenditures, as we reported in Section 3.1;



- § Authorized amounts that correspond to the total of approved tasks are greater than committed amounts in the financial system;
- § The committed amount represents the estimated total value of the contract, whereas financial commitments should have been established separately and on an as-and-when-required basis given the cost of each of the authorized tasks;
- § Because there were no commitments specific to each authorized task, when invoices were paid expenditures were accounted for under one single expenditure item. Journal entries must be made to make the appropriate corrections to expenditure recording, since each authorized task requires its own accounting code.

RECOMMENDATIONS

FINANCE DIRECTORATE

OPERATIONS AND ASSETS BRANCH

- i. Ensure that a staff member who has the appropriate spending authority (expenditure initiation) provides the contractor with authorizations to proceed;**
- ii. Review administrative practices to ensure that commitment certificates are issued only for expenditures that actually have been committed and in keeping with the value of these expenditures.**



3.3 ALLOCATION OF LABOUR COSTS

The annual process of drafting work plans is aimed at approving resources and allocating them to activity elements that have been planned for the coming fiscal year. Sound management practices dictate that managers continuously monitor the status of each activity element under their responsibility. They should rely on regular procedures and systems that allow them to assess performance and the actual use of resources as compared with forecasts. The accounting of financial operations is a vital function because it serves as the basis of management information systems that, by keeping track of spending approvals and authorizations, allow for operations monitoring, budget control and reporting. When a given planning element is identified, we have to be consistent and account for related expenses with due diligence.

Management practices and controls should be in place to match expenditures with the appropriate related operations. Accounting must be carried out in accordance with the Chart of Accounts, which, according to the federal government's Policy on Classification and Coding of Financial Transactions, requires that expenses be accounted for according to four types of classification, that is, to identify the **authority** (Parliamentary appropriation), the **purpose** (to link the operation to departmental objectives – programs and activities), the **responsibility** (organizational unit) and the **object** (nature of expenditures).

We examined the reporting of expenses related to labour costs while paying particular attention to accounting by **purpose**. We noticed that some practices differed from one organization to the next and were questionable in terms of sound management principles.

At the Office of the Director General, Space Operations

In the 2005–2006 fiscal year, the Director General's office personnel were assigned to three program management activity elements (EO, SSE and SC) according to percentages that represented the planned distribution of resources at the Agency by program activity. This distribution method was abandoned on April 1, 2006, in favour of an arbitrary assignment to a single program management activity element: EO.

At the Satellite Operations Directorate

In spite of the fact that many different activity elements were approved and authorized in the work plans, we noted that in 2005–2006 all Satellite Operations staff, except for matrix support personnel, were assigned to Activity Element 2139 – Radarsat-1 Operation. The review of 2006–2007 assignments reveals that, again, all staff, this time including matrix support personnel, have been assigned to Activity Element 2139 – Radarsat-1 Operation. We need to point out, however, that assignments related to matrix support, even though they had been established, were awaiting confirmation from management before being recorded in SMS so as to avoid potentially onerous administrative tasks resulting from assignment changes.

We also observed that all of the Director's and the assistant's time is assigned to Activity Element 2139 – Radarsat-1 Operation, whereas in actual fact they provide support for all the activity elements at the Directorate.

At the Operations Engineering Directorate

In 2005–2006 and this fiscal year, all Operations Engineering staff were assigned to the same Activity Element: 2187 – MSS Operation. We found, however, that when there were multiple assignments, they were used to distribute payroll expenditures according to the WBSs.

We also noted that, in spite of the existence of Activity Element 2193 – Program Management (CSSP), no assignments were made to report payroll expenditures and other expenses related to program management separately.

At the David Florida Laboratory Directorate

For the purposes of this comparative analysis, we extended our review to assignments of David Florida Laboratory staff. In our November 2005 audit report, we mentioned that assignments to activity elements were arbitrary. Following a review of the PAA, in 2006–2007, staff of the Office of the Director have now been assigned to Activity Element 2069 – DFL Program Management, whereas other employees have been assigned, depending on their work unit, to Activity Element 2084 – DFL Testing Operations or Activity Element 2067 – DFL – Building.

After the review of assignments and comparative analysis, the following was established:

- There are many situations in which labour costs have not been established or reported with the operations to which they are related. Assignments in the SMS, which are used to allocate payroll expenses to more than one element in the Chart of Accounts, do not reflect the actual situation. To establish the real costs of a given operation, it is important to identify and record related expenses.
- Common costs are not distributed among each activity element they support.
- The notion of program management is not applied uniformly from one organization to the next.
- A number of activity elements are arbitrarily linked to program activities. We looked at work methods at the Office of the Vice-President, Science, Technology and Programs, at the Office of the Director General, Space Technologies, and at the Office of the Director General, Space Programs, only to find that, there again, activity elements that are related to program management are arbitrarily linked to a given program activity.

RECOMMENDATIONS

FINANCE DIRECTORATE

PLANNING AND PERFORMANCE DIRECTORATE

OPERATIONS AND ASSETS BRANCH

- i. Ensure that assignments of staff members recorded in the SMS are consistent with the activity elements to which they have actually been assigned.**
- ii. Establish requirements concerning the application of the notion of program management and ensure they are uniformly applied.**
- iii. Apply the cost accounting principles to common costs, that is, to incurred costs related to more than one planning element.**



3.4 REVENUE MANAGEMENT

When the Agency began work to put the Radarsat-1 remote imaging satellite in orbit, it was agreed that, in accordance with the Agency's mandate, the private sector would commercialize the distribution of data gathered by the satellite. The Agency designated Radarsat International Inc (RSI) for this task and gave it exclusive rights to commercialize and distribute Radarsat-1 data and products around the world throughout the satellite's life cycle. In return for usage rights given to RSI, the Agency is entitled to receive royalties according to the terms in the agreement. Royalties are determined by applying fixed rates to the market value of commercialized data and products and are paid to the Agency on a quarterly basis. The Agency has received roughly \$25 million in royalties so far.

One of the objectives of the audit is to ensure that there is a management framework that provides assurances that all royalties owing are received, deposited and accurately reported.

Reports on royalties

We noted that there are provisions in the agreement giving the Agency reasonable assurances that RSI establishes royalties owing in accordance with the prescribed terms and conditions. Under the agreement, RSI is required to submit various reports, including reports on royalties, comprehensive reports, reports from the Board of Directors and annual financial statements. Although some of these reports had been received, we noticed that one report on royalties, the annual financial report certified by a qualified external auditor, had never been submitted. This annual report must cover sales and royalties broken down by country and royalty category.

Audit clause

The agreement includes an audit clause that gives the Agency another method of ensuring it has received all royalties it is entitled to. This clause has not been applied since the agreement came into effect.

The management framework includes important control elements that should be applied so as to obtain assurances that all amounts owing really have been received.

RECOMMENDATIONS

OPERATIONS AND ASSETS BRANCH

- i. Require that RSI provide the reports prescribed by the agreement.**
- ii. Determine whether royalties received were established in accordance with the agreement.**
- iii. Apply the audit clause if necessary.**



3.5 OBLIGATIONS TO CONTRIBUTING AND PARTICIPATING PROVINCES

Agreements were reached with some Canadian provinces when the Radarsat remote imaging satellite was under development. In return for their contribution, contributing provinces are entitled to receive some satellite data from their territory at cost price. For their part, participating provinces have paid in advance for some satellite data from their territories.

For accounting purposes, obligations to the contributing and participating provinces must be recorded in the Agency's books. These obligations were established on April 1, 2001, as part of the Financial Information Strategy (FIS) and were identified as deferred revenues. In addition, appropriate management controls must be in place to provide assurances that book balances accurately reflect the Agency's obligations to these provinces as the data they are entitled to are delivered to them.

Contributing provinces

We noted account balances and carried out some audit procedures to determine whether these balances represented the actual situation. Obligations in the books regarding contributing provinces totalled \$3,972,073 as at March 31, 2005, and the same amount as at March 31, 2006. In spite of the fact that there was no activity according to the accounting records, our audit procedures revealed that satellite data were provided for one of the contributing provinces in 2005–2006.

Participating provinces

With regard to participating provinces, the Agency's accounting records indicate that there was an account balance of \$107,458 as at March 31, 2005, which was amortized by \$1,201 in the 2005–2006 fiscal year. There again, our audit procedures showed that the balance at March 31, 2006, did not reflect reality because the amount of satellite data provided for one of the participating provinces was larger than the amount that was used to reduce the balance in the books. We also found that the unit value factored into the calculation did not match the one that was considered when the balances were established on April 1, 2001.

RECOMMENDATIONS

OPERATIONS AND ASSETS BRANCH

FINANCE DIRECTORATE

- i. Review data deliveries to contributing and participating provinces since April 1, 2001, to identify deliveries that have not been taken into account since then.**
- ii. Adjust book balances to make them consistent with the amount of data that was actually transmitted and with the unit value that was considered when the balance was initially established.**
- iii. Devise administrative procedures to ensure that all information that is relevant to data delivery is communicated to financial services.**





4.0 ACCOUNTABILITY

One of the responsibilities of management involves measuring results and assesses performance. This responsibility is so important that it has been incorporated into the MAF as one of the ten expectations: “Relevant information on results (internal, service and program) is gathered and used to make departmental decisions, and public reporting is balanced, transparent, and easy to understand.”

We expected to find a formal, structured accountability procedure that encompasses all approved operations in the Space Operations Branch’s work plan and is consistent with related requirements. Accountability requirements have been established in the MRRS, Guide to the Preparation of Part III of the Estimates (RPP and DPR) and MAF and by sound management practices.

Review of program performance

First we familiarized ourselves with devolved program review responsibilities. We consulted the Agency’s MRRS knowing that it must include a description of the governance structure, which provides information on decision-making mechanisms and responsibilities. The EMIS, in which this information is stored, describes the mandates of the three main committees: the Executive Committee, the Program Review Advisory Board (PRAB) and the Internal Management Committee (IMC). According to the description, the PRAB is the Agency’s primary body that is responsible for program development and management. As such, it manages, actively monitors and controls Agency program content and priorities. The terms of reference set out the PRAB’s mandate while specifying that it is responsible for internal performance measurement mechanisms needed to meet PAA requirements, which include regularly reviewing the performance of programs against established program assessment and performance frameworks.

We have already mentioned that the collection of information used for internal and external reporting is incorporated into the work plans process and communicated in the Mid-year Report and Year-end Report. We expected these reports to be subject of a formal, structured review by the PRAB in light of its mandate. Upon review of the minutes of the PRAB’s meetings in the last three years, we noted that these reports were never brought to its attention and that it has not carried out any other kind of performance review of existing programs. Furthermore, the minutes of the Executive Committee reveal that the Mid-year Reports for 2004–2005 and 2005–2006 were submitted for information purposes only.

However, we did note that reviews were carried out as part of the Mid-year Report (based on operational plans only), which consisted in identifying significant discrepancies and occasionally discussing the Agency’s financial situation as part of presentations at Executive Committee meetings. These financial reviews were carried out because officials considered the possibility of reallocating funds, which was not based on a genuine program review taking program performance into account.

In a results-based management context, major efforts have been made in recent years to enable the Agency to measure and report on the performance of its programs. All these efforts are in vain if there is no formal and regular program performance review.

Report on Plans and Priorities and Departmental Performance Report

We also examined the RPP and DPR with regard to activity elements of the Space Operations Branch. Since the DPR is largely based on the work plans, the 2005–2006 DPR confirmed what we already discussed above (see Sections 2.2 and 2.3), that performance measurement focuses on operational aspects (outputs) rather than on outcomes.

For example, upon review of the RPP and DPR, we found that the selling point of program activity A – Space Based Earth Observation deals with long-term advantages and benefits that are supposed to stem from this program activity. The RPP and DPR deal with the opportunities of this activity. They allude to the fact that it is a cost-effective solution, that satellite data are essential to decision-makers and that the data are indispensable to improving public health and safety, reducing human suffering around the world and protecting the environment of the planet. Nevertheless, the performance measurement strategy at all levels (see table below) mainly deals with the acquisition and delivery of data, products and services without measuring resulting advantages and benefits.

Program activity	A	Space-based Earth Observation
Expected results	Performance indicators	
<ul style="list-style-type: none"> Delivery, directly or in partnership, of Space Based EO data, products and services in response to user requirements. 	<ol style="list-style-type: none"> 1- Number of operational users of Radarsat 2- Number of Canadian participations in missions/instruments 3- Growth in OGD's operational budget involving EO 4- Number of hits on GeoConnections 	

Program sub-sub-activity	A3-1	EO Space Mission Operation
Expected results	Performance indicators	
<ul style="list-style-type: none"> Earth Observation Space Mission Operations meet user/client needs as per mission requirements. 	<ol style="list-style-type: none"> 1- System performance, as per mission requirements and resources (%) 2- Volume of data acquired or delivered as per mission requirements and resources (e.g. number of images or minutes of data per year) 	

Activity element	2139	RADARSAT-1 Operation
Outputs	Performance indicators	
<ul style="list-style-type: none"> RADARSAT-1 Operation 	<ol style="list-style-type: none"> 1a. System performance (%) 1b. Volume of data acquired 	



We would be better able to justify programs and measure progress in terms of strategic outcomes if, rather, the strategy focused on examining how the data are used, since this would tell us what we derive from operating satellites.

These findings (also discussed in Section 2.2) apply to activity element 2187 – MSS Operation, which is the responsibility of the Operations Engineering Directorate and is related to Program Activity B – Space Science and Exploration (SE).

Since performance measurement strategies focus on operational activities and outputs rather than on outcomes (ie, attributable consequences), the RPP and DPR, like any other reporting instrument, cannot demonstrate how benefits that are supposed to stem from programs and activities are obtained.

RECOMMENDATIONS

PRESIDENT

PLANNING AND PERFORMANCE DIRECTORATE

- i. Ensure that the performance measurement strategies are to measure results in keeping with the Management, Results and Resources Structure Policy (MRRS).**
- ii. Ensure that the performance of each program is subject of a regular formal review.**
- iii. Ensure that the authority delegated to review program performance carries out its devolved responsibilities.**
- iv. Ensure that the governance structure in the MRRS is up to date and is consistent with how the Agency manages its programs and activities.**
- v. Ensure that the Report on Plans and Priorities and Departmental Performance Report are drafted in accordance with prescribed requirements and indicate achievements and results under the MRRS.**



APPENDIX A — AUDIT OBJECTIVES AND CRITERIA

The overall objective of this audit project was to evaluate the adequacy of the key elements of the management framework of Space Operations Branch.

More specifically, the following objectives were set for the audit:

Objective 1 Ensure that operations are well planned.

Criterion 1.1 A well-structured planning process is in place.

Criterion 1.2 Operations are approved.

Criterion 1.3 Financial and human resources are allocated to approved operations.

Criterion 1.4 The planning process is designed to contribute to accountability.

Criterion 1.5 The planning process forms the basis of budgetary control.

Objective 2 Ensure that operations and resources used are controlled.

Criterion 2.1 Work organization, division of responsibilities and delegated authorities contribute to delivering programs in an effective, efficient and economical manner.

Criterion 2.2 Managers provide their staff with the necessary means for achieving the organization's objectives.

Criterion 2.3 Expenditures are approved and carried out in compliance with the applicable acts and regulations, and spending authorities are controlled.

Criterion 2.4 There are management controls in place to allow managers to periodically measure accomplishments with respect to objectives (in terms of costs, schedules and performance).

Criterion 2.5 Assets are protected.

Objective 3 Ensure that managers account for outcomes and means used.

Criterion 3.1 There is an appropriate accountability framework establishing a basis for effective accounting.

Criterion 3.2 Each program element is subject to periodic accounting.



APPENDIX B MANAGEMENT ACTION PLAN

Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	2.0 OPERATIONS PLANNING				
	2.1 PROGRAM ACTIVITY ARCHITECTURE				
i.	Ensure that the Program Activity Architecture is developed in keeping with the TBS Management, Resources and Results Framework (MRRS) while ensuring that the PAA reflects the Agency's current management structure and indicating all levels where performance must be measured.	Planning and Performance Directorate	Director	<p>The 2005-2006 Program Activity Architecture has been approved by TBS as well as the changes made for 2006-2007, which is at present in force.</p> <p>The MRRS Policy has been adopted by TBS in April 2005 while the instructions to departments were issued in December 2006.</p> <p>The program activity architecture will be modified to meet these requirements.</p>	As per the schedule established by TBS
ii.	Record relevant data concerning all Program Activity Architecture levels in the Expenditure Management Information System (EMIS).	Planning and Performance Directorate	Director	<p>The 2005-2006 Program Activity Architecture has been approved by TBS as well as the changes made for 2006-2007 which is at present in force.</p> <p>The MRRS Policy has been adopted by TBS in April 2005 while the instructions to departments were issued in December 2006.</p> <p>The program activity architecture will be modified to meet these requirements.</p>	As per the schedule established by TBS



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	2.0 OPERATIONS PLANNING				
	2.2 LINKING ACTIVITIES TO RESULTS				
	To ensure consistency with the MRRS: i. Demonstrate that activity elements and their operational activities are related to the Agency's strategic outcomes. To this end, it is recommended that a Results-based Management and Accountability Framework (RMAF) be developed.	Operations and Assets Branch Planning and Performance Directorate	Director general Director	The revision to the PAA undertaken by the Planning and Performance Directorate will contribute to make these demonstrations. The Planning and Performance Directorate will submit to TBS for approval the results and indicators that will link and measure in a quantifiable manner the contribution of the PAA programs to the CSA's strategic outcome.	As per the schedule established by TBS
	ii. Ensure that the purpose of performance measurement strategies is to measure the results of the various PAA components in terms of results-based management.	Operations and Assets Branch Planning and Performance Directorate	Director general Director	The revision to the PAA undertaken by the Planning and Performance Directorate will contribute to comply with it. The 2005-2006 Program Activity Architecture has been approved by TBS as well as the changes made for 2006-2007, which is at present in force. The MRRS Policy has been adopted by TBS in April 2005 while the instructions to departments were issued in December 2006. The program activity architecture will be modified to meet these requirements and the measurement of results adjusted accordingly.	As per the schedule established by TBS



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
iii.	Ensure that the PAA reflects the links, objectives, expected results and indicators developed in the RMAF.	Operations and Assets Branch	Director general	The revision to the PAA undertaken by the Planning and Performance Directorate will contribute to comply with it.	Continuous
		Planning and Performance Directorate	Director	Managers who have an RMAF have selected some results and indicators to be incorporated in the logic model of the relevant program activity. The planning group will continue to play a proactive role with managers who established RMAFs to ensure there is a linked to the program activities.	



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	2.0 OPERATIONS PLANNING				
	2.3 THE WORK PLAN				
	2.3.1 THE WORK PLAN AND ACCOUNTABILITY				
i.	Since the work plan is used for internal and external reporting purposes according to the MRRS, it must include all relevant elements intended to measure program performance while measuring outcomes beyond outputs.	Operations and Assets Branch Planning and Performance Directorate	Director general Director	The revision to the PAA undertaken by the Planning and Performance Directorate will contribute to comply with it. The internal and external reporting according to the TBS instructions for the development of a Management, Resources and Results Structure issued un December 2006 is at the Work plan Summary level. Considering the review ordered by TBS, the Work plan Summary will thus incorporate all the relevant elements that are necessary for the performance measurement of the PAA programs.	As per the schedule established by TBS



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	2.0 OPERATIONS PLANNING				
	2.3 THE WORK PLAN				
	2.3.2 THE WORK PLAN AS A MANAGEMENT TOOL				
i.	Instructions provided as a framework for the preparation of the work plan should be formulated in order to convey the nature and scope of information to be included in the operational plan. This information should concern operational activities for which internal management of each organization is responsible.	Planning and Performance Directorate	Director	The work plan comprises a Workplan Summary related to the Program sub-sub-activities and an Operational plan that is the responsibility of each organization. The planning group provided the <i>Workplan Principles and General Instructions</i> as well as the instructions for the electronic work plan to oversee the preparation of the Work plan Summary and the Operational plan and also annually holds consultation on its content.	Continuous

Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	2.0 OPERATIONS PLANNING				
	2.3 THE WORK PLAN				
	2.3.3 INCORPORATING RMAFs INTO THE WORK PLAN				
	i. When an RMAF is developed for a given planning element, make sure that corporate systems and processes incorporate the relevant elements developed in the RMAF.	Operations and Assets Branch Planning and Performance Directorate	Director general Director,	The revision to the PAA undertaken by the Planning and Performance Directorate will contribute to comply with it. The Planning group already plays an active role with managers who established RMAFs to ensure the relevant linkages to program activities. The Planning group can now rely on more clearly defined instructions issued by TBS in December 2006 to departments for the development of the management, resources, and results structure and their links with RMAFs.	Continuous



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	3.0 PROGRAM DELIVERY				
	3.1 WORK ORGANIZATION AND DELEGATED AUTHORITIES				
i.	Review employee work descriptions to ensure they are always relevant.	Operations and Assets Branch	Director general	The review of the work descriptions was undertaken. This exercise could require the participation of the Human resource directorate.	March 2008
ii.	Align work organization, responsibilities and authorities while ensuring that the title <i>manager</i> is attributed only to positions that meet the accepted definition.	Operations and Assets Branch	Director general	The financial delegations to the Space Operations Branch managers have been reviewed and they now have the expenditure initiation authority.	Completed



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	3.0 PROGRAM DELIVERY				
	3.2 CONTRACT MANAGEMENT				
i.	Ensure that a staff member who has the appropriate spending authority (expenditure initiation) provides the contractor with authorizations to proceed;	Finance Directorate Operations and Assets Branch	Chief Financial Officer Director General	All the managers have the expenditure initiation authority. (See 3.1 ii)	Completed
ii.	Review administrative practices to ensure that commitment certificates are issued only for expenditures that actually have been committed and in keeping with the value of these expenditures.	Finance Directorate Operations and Assets Branch	Chief Financial Officer Director General	Commitment will be issued for each planned task for 2007-2008 based on their individual approved value.	Completed



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	3.0 PROGRAM DELIVERY				
	3.3 ALLOCATION OF STAFF COSTS				
i.	Ensure that assignments of staff members recorded in the SMS are consistent with the activity elements to which they have actually been assigned.	Finance Directorate Operations and Assets Branch	Chief Financial Officer Director General	The assignments for 2006-2007 were recorded in SMS in February 2007. The assignments (approved by the appropriate authorities and used in the workplan) are being recorded in SMS.	Completed
ii.	Establish requirements concerning the application of the notion of program management and ensure they are uniformly applied.	Planning and Performance Directorate	Director	These requirements are now well defined in the instructions issued by TBS in December 2006 to departments for the development of the management, resources, and results structure	Completed
iii.	Apply the cost accounting principles to common costs, that is, to incurred costs related to more than one planning element.	Finance Directorate Planning and Performance Directorate	Chief Financial Officer Director	A study on project costs is currently underway. This study carried out by the consulting services of PWGSC consists of re-examining the cost accounting (direct and indirect costs) methodology. Results of this study might be applied to any planning elements. While waiting for the results of this study, the common costs will not be distributed between the various planning elements they are supporting. These requirements are now well defined in the instructions issued by TBS in December 2006 to departments for the development of the management, resources, and results structure	2007/2008



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	3.0 PROGRAM DELIVERY				
	3.4 REVENUE MANAGEMENT				
i.	Require that RSI provide the reports prescribed by the agreement.	Operations and Assets Branch	Director General	Steps have been taken at RSI (now GSI) and it was agreed that they will submit the requested reports.	Completed
ii.	Determine whether royalties received were established in accordance with the agreement.	Operations and Assets Branch	Director General	This exercise will be carried out following the receipts of the requested reports (see 3.4 i)	Dec 2007
iii.	Apply the audit clause if necessary.	Operations and Assets Branch	Director General	We will consider the application of the audit clause considering the results of 3.4 i) and 3.4 ii).	Dec 2007



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
	3.0 PROGRAM DELIVERY				
	3.5 OBLIGATIONS TO CONTRIBUTING AND PARTICIPATING PROVINCES				
i.	Review data deliveries to contributing and participating provinces since April 1, 2001, to identify deliveries that have not been taken into account since then.	Operations and Assets Branch Finance Directorate	Director General Chief Financial Officer	The financial information has been reviewed in the light of the data provided by the Order desk.	Completed
ii.	Adjust book balances to make them consistent with the amount of data that was actually transmitted and with the unit value that was considered when the balance was initially established.	Operations and Assets Branch Finance Directorate	Director General Chief Financial Officer	Contributing provinces: Balance has been written off in its entirety. Participating provinces: Balance has been reviewed.	Completed
iii.	Devise administrative procedures to ensure that all information that is relevant to data delivery is communicated to financial services.	Operations and Assets Branch Finance Directorate	Director General Chief Financial Officer	The procedures are designed in the way that the financial services are now informed before the data delivery to the participating provinces.	Completed



Ref.	RECOMMENDATION	IDENTIFIED RESPONSIBILITIES		ACTION PLAN DETAILS	DEADLINE
		ORGANIZATION	FUNCTION		
4.0 ACCOUNTABILITY					
i.	Ensure that the performance measurement strategies are to measure results in keeping with the Management, Results and Resources Structure Policy (MRRS).	Planning and Performance Directorate	Director	Each program activity has its own performance measurement logic model associated to a performance measurement strategy. These logic models and strategies will be reviewed in accordance with the instructions issued by TBS in December 2006 for the development of the management, resources, and results structure	As per the schedule established by TBS
ii.	Ensure that the performance of each program is subject of a regular formal review.	President Office Planning and Performance Directorate	President Director	The CSA will comply with government requirements to review all programs every four years. Furthermore, the executive committee as part of its yearly planning cycle including financial planning will undertake formal program reviews.	March 2009
iii.	Ensure that the authority delegated to review program performance carries out its devolved responsibilities.	President Office	President	The executive committee as part of its yearly planning cycle including financial planning will undertake formal program reviews.	March 2009
iv.	Ensure that the governance structure in the MRRS is up to date and is consistent with how the Agency manages its programs and activities.	President Office Planning and Performance Directorate	President Director	The instructions to departments for the development of the management, resources, and results structure were issued by TBS in December 2006. The governance structure will be updated according to these instructions.	As per the schedule established by TBS
v.	Ensure that the Report on Plans and Priorities and Departmental Performance Report are drafted in accordance with prescribed requirements and indicate achievements and results under the MRRS.	Planning and Performance Directorate	Director	The Report on Plans and Priorities and the Departmental Performance Report are drafted in accordance with the annual requirements issued by TBS. The instructions to departments for the development of the management, resources, and results structure were issued by TBS in December 2006. The 2008-09 RPP and DPR will be drafted according these instructions.	2008-09 RPP and DPR publication



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		ORGANIZATION	FUNCTION		

