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MINISTRY OF STATE
FOR SCIENCE AND TECHNOLOGY

COMPOSITE AUDIT PLAN
1979/80 THROUGH 1981/82

Audit Services Bureau
Supply and Services Canada

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FOREWARD

In response to the request of Mr. J. P. McLaughlin, Director, Corporate Services Branch, Ministry of State for Science and Technology, we are pleased to submit to you a proposed audit plan for the Ministry. The audit is comprehensive in nature and covers the three years commencing in the 1979/80 fiscal year. The plan encompasses an approach to internal auditing that has been oriented to the Ministry's needs and incorporates the Audit Services Bureau's operational audit concepts, methodology and techniques. While the plan outlines proposed audit activities for the next three years, it is anticipated that the plan will be reviewed annually and up-dated to reflect current priorities and conditions.

The plan is comprised of several sections - background, objectives, scope and methodology.

There are three appendices to the plan:

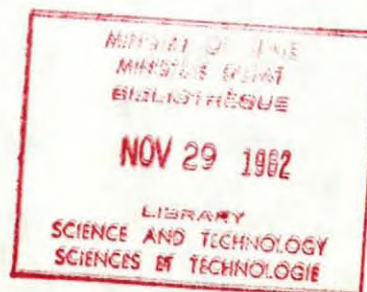
- Appendix I - Rationale for Program Audit
- Appendix II - Comprehensive Financial Audit
- Appendix III - Comprehensive Audit - Corporate Services

In addition there are three exhibits:

- Exhibit I - Model of the Ministry (draft)
- Exhibit II - Three-year Audit Plan
- Exhibit III - Audit Schedule

BACKGROUND

For the past several years, the Audit Services Bureau, Supply and Services Canada, has performed financial audits on behalf of the Ministry. The Ministry decided, however, in response to both internal and external demands, that the scope of audit should be enlarged. The intention of the Ministry is to perform sufficient internal audit to provide assistance to management and to satisfy the requirements of both central agencies and the Auditor General. The proposed audit plan is designed to satisfy the intention of the Ministry.



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OBJECTIVES

The essential objective of the audit plan is to document an approach to:

- perform financial audits oriented to
 - (1) the review and appraisal of the effectiveness and efficiency of Ministry systems of financial administration, including the safeguarding of assets;
 - (2) the ascertainment of the extent of compliance of Ministry systems and procedures with financial policies, regulations and other instructions of Parliament, Treasury Board and the department;
 - (3) the identification of the need for possible improvements in financial controls.
- perform operational audits oriented to
 - (1) the evaluation of managerial controls over operations and the resultant impact on the effectiveness and efficiency of the activities performed and services/products rendered;
 - (2) the recommendation of courses of action to improve managerial controls where considered necessary.

SCOPE

The scope of the audit is Ministry-wide. It will include all functions, all processes and all systems in the Ministry, with the following exceptions:

1. It will not include the Secretary and his office although it will involve the support provided to him, including the PMC Secretariat, and may involve him in resultant action;
and
2. It will not include policy or decisions taken but rather the systems producing the policy or decisions.

METHODOLOGY

In performing the audit and presenting the results, the following approach is suggested.

1. Audit programs are future oriented; that is to say, they are designed to evaluate current situations in terms not only of present but also of potential impact and desired results.
2. In order to promote accurate and complete analysis of observations, the audits are performed by a "team" of appropriately multi-disciplined auditors rather than a single individual.
3. Audit results are debriefed at all levels of managerial responsibility, starting with the most direct one. This ensures that all individuals who have the responsibility for and can correct a situation are given first hand information and assistance. Since debriefings also reduce the possibility of "surprises" to subordinates, this enables the audit results to be presented in such a manner as to be constructive rather than punitive.
4. Recommended courses of action are presented with each observation to assist management. Specific solutions are not developed as this is not only a management prerogative but also usually outside the audit mandate.
5. Audit reports are "exception reports" indicating significant strengths and weaknesses rather than dwelling on normal situations. This enhances the usefulness of the report for managerial action.

The implementation of this audit approach ensures the thorough evaluation of each branch and activity of the Ministry, the impartial reporting of clearly defined results and fosters the commitment of management to improvements.

The audit perspective will be generally managerial with specific concern for effectiveness, efficiency, economy and controls.

The Secretary is ultimately responsible for the audit activity within the Ministry and, as a result, all audit reports will be addressed to him.

Functional advice would be provided to the audit activity by the audit committee.

Audit reports will be considered to be the property of the Ministry and will not be communicated to a third party without the consent of the Ministry.

APPENDIX IRATIONALE FOR PROGRAM AUDIT

The draft model of MOSST organization, as shown in Exhibit 1, describes the general functioning of the Ministry, including:

- the environment;
- the process by which executive management is perceiving it;
- the mission, objectives, sub-objectives, priorities and strategies as stated by the Ministry;
- the three levels of management and their relationship;
- the resources utilized for programs as well as resources providing the support services;
- the inputs, major processes and outputs.

This basic knowledge of the organization was acquired through interviews with most senior managers and a review of pertinent documentation, including a draft report "The Application of Performance Measurement and Program Evaluation to MOSST", prepared by the Director, Corporate Services.

It should be noted that the model was designed for the purpose of the audit plan only in order to ensure that all aspects of the Ministry would be considered in proposing the plan. This model is subject to validation and completion whenever the actual program audit takes place.

Nevertheless, in this effort to fully understand the organization, we identified specific characteristics of MOSST which would inevitably affect the mandate, scope, approach and methodology of a comprehensive program audit.

This appendix describes the identified characteristics with the appropriate recommendations for audit and their advantages.

1. The similarities among the three Program Branches and the size of the organization

At the program level, the Ministry is composed of three branches which are contributing to the overall mission of the organization and its objectives in three distinct fields of activity: University, Industry and Government.

In spite of this diversity, the Branches offer similarities in many ways.

- There is a project division in each branch.
- Most projects and on-going activities undertaken by the three branches are planned, approved, coordinated and controlled by the central Project Management Committee (PMC).
- All projects and activities are or should be contributing to a common mission and objectives.
- Although projects and activities may be different in nature and subjects, the overall process remains similar in its key operations.
- The Ministry is now implementing a matrix organization whereby resources from all branches will be available to contribute to projects in any of the three branches.

In addition to the above-mentioned similarities, the relatively small size of the organization must be considered. There are only 101 man-years directly involved in programs, of which 68 are professionals and 33 support staff. In our opinion, individual audits of each division or even branch are not justified on a cost/benefit basis.

It is therefore recommended:

- That the three Branches be audited simultaneously, covering all programs of the Ministry.

There are many advantages to a unique program audit in the Ministry:

- It would save audit time and costs, especially in the familiarization phase of the audit.
- It would permit Ministry-wide observations and would therefore be more meaningful to management at all levels.
- It would avoid duplication or repetition of observations which are common to all three branches.
- It would be less disruptive to normal management and operations.

2. The non-existence of auditing in the Program Branches

In his last report to the Ministry, dated March 31, 1978, the Auditor General indicated the absence of operation audit within MOSST which could have deprived the Secretary of useful information, necessary to the global management of the organization.

Since the Ministry has recognized the validity of the observation, it would be advisable that remedial action be taken as soon as possible.

It is therefore recommended:

- That the operational audit of MOSST programs be carried out in the first year of the three-year audit plan.

The acceptance of that recommendation would not only satisfy the Auditor General's concerns but would also provide management with an early evaluation of its performance by an independent group.

In addition, with the implementation of a Performance Measurement System, anticipated in April 1979, it will be appropriate to review that system in the formative stages.

3. The need for continuity in the audit function

Assuming that recommendations 1 and 2 are accepted, that is that all programs will be audited in the first year of the audit plan, there would still be a need for audit activities in the Programs area during the following years.

Firstly, the program audit would most likely indicate specific areas of concerns or key issues which will result in a requirement for special audits where deeper fact finding and analysis are essential to problem solving. However, these needs for special audits will only be identified by management following recommendations from the first cycle of audit.

Secondly, in order to ensure the completeness of the audit process, it would be advisable that a follow-up on each audit report take place during the following year.

It is therefore recommended:

- That the audit function be exercised in every year of the audit plan for the Program Branches, taking the form of both follow-up activities and special audits.

This continuous activity in the audit function would ensure that MOSST management obtain current information as to the status of their programs and operations. It would also satisfy the Auditor General's and Central Agencies' requirements.

4. The high profile of the organization

The Ministry of State for Science and Technology is unique in that its main products are of intellectual nature: policy formulation, advice, opinions, ideas, influence, etc. The intangibility of the products makes it that much more difficult to develop criteria to measure the performance of the whole organization. Moreover, the objectives and sub-objectives, as stated by the Ministry, appear at first sight to be difficult to quantify.

Some precautions should then be taken to ensure that audit team members are experienced enough to carry out their audit duties within the limits of these two major constraints.

In addition, the organization has a relatively high profile, if only considering the environment that MOSST is constantly dealing with: the Cabinet through its Minister, Central Agencies, senior executives from government departments and agencies, provincial authorities, the scientific community from both industry and universities, etc. Another characteristic of the Ministry is the high level of its operational resources with specialized skills in the fields of research and development, science and technology and policy-making.

The audit team members should then be of such caliber that they are in a position of not only fully understanding the audited organization with all its constraints, but also to develop their credibility as to their capabilities of fulfilling the audit mandate.

It is recommended that:

- Audit Services Bureau provide senior auditors (at the OM6 - OM5 level) to audit MOSST programs
- The Ministry allocate knowledgeable internal resources as required and as members of the audit team for the duration of the program audit. (30 working days).

The allocation of internal resources could be senior policy advisors but this is subject to agreement by both parties prior to the commencement of the audit. Such a composition of the audit team would contribute to increasing the efficiency and effectiveness of the audit:

- by helping the audit team to obtain a full understanding of the more complex issues, thus ensuring the validity of observations;
- by reducing requirements for time-consuming interviews with management.

A further advantage of having an internal resource as a full-time member of the audit team would be in the utilization of that resource by the Ministry in the implementation phase of audit recommendations.

5. The Project Management Committee (PMC)

Normally, a total operational audit looks at all aspects of an organization including its managerial activities, as well as its operating systems with regard to economy, efficiency and effectiveness of its programs.

The overview of MOSST activities indicated, however, that the audit should concentrate on the managerial aspects of the organization with a lower emphasis on the production systems, for the following reasons:

- With the exception of the Program Review and Assessment Division where operations are somewhat repetitive, most projects and activities taking place in other divisions are of non-repetitive nature.
- In addition, these projects and on-going activities are conducted within a rather straightforward system: information gathering, review and analysis, synthesis and conclusions reporting.

Therefore, the necessity of a system review bears a lower priority.

- Although the audit team will not be evaluating the quality nor the adequacy of individual projects, it will review the Management controls over these two aspects.
- Since the Ministry is now placing emphasis on management of projects through its Project Management Committee, it is felt that the audit should focus on this aspect.

It is therefore recommended:

- That the audit concentrate on the managerial aspects of program management systems with focus on planning, coordinating and controlling functions through PMC:
 - the quality of management with regard to economy, efficiency and effectiveness,
 - the program results as they relate to the organization's mission, objectives and priorities.

APPENDIX IICOMPREHENSIVE FINANCIAL AUDIT1. Audit Areas

The Auditor General in his centennial report to the House of Commons requests that, to effect improvements in audit planning, all activities of a Department or a Ministry are to be identified as potential audit areas. In finance, the activities have been identified and logically grouped for the government as a whole by Treasury Board in their Guide on Financial Administration. Treasury Board identifies systems or groups of activities common to most departments as follows:

- management of the financial function;
- classification of accounts;
- budget preparation and control;
- accounting and control of expenditures;
- accounting and control of revenues; and
- financial reporting.

As a result of our preliminary survey of the financial activities in the Ministry, the three following areas were identified as subject to audit:

- budget preparation and control;
- expenditures; and
- financial reporting.

The other three audit areas will not be eliminated but rather integrated with the identified audit areas.

With the relatively small size of the financial operations, it would be neither practical nor economical to review management of the financial function separately. It is proposed that management be examined as a component of each of the three audit areas.

Again, because of the relatively small size of the organization and the small number of accounts, classification of accounts will not be reviewed separately. It is proposed that the relevance of the account structure can be best examined as a component of the financial reporting review.

Finally, the Ministry has no revenues in the accounting sense. However, there is cash received, but these are recoverables of various advances, refunds of expenses, that can be easily examined during the expenditure audit.

1.1 Budget Preparation and Control

A review of budget preparation and control will include an examination of:

- the quality of guidelines for the preparation of forecasts and estimates;
- the degree to which budget decisions which affect the plans of responsibility centres are communicated and understood;
- the quality of final forecast and estimates for the Ministry;
- the quality and success of fund allocation activities;
- the quality of the financial records reflecting the budgets, adjustments and variances.

1.2 Expenditures

A review of expenditures would involve an examination of the various sub-systems of expenditures and the related activities:

- pay - calculation and distribution activities;
- procurement - requisitioning, receipt and distribution, storage (including inventory and warehouse procedures), payment and recording activities;
- travel - requisitioning, submission, payment and recording activities;
- other - (grants/contributions).

The audit will also focus on timeliness and accuracy with which transactions are recorded and the ready accessibility of expenditure information to managers.

Finally, the degree of adherence or compliance to central agency regulations will be examined.

1.3 Financial reporting

A review of financial reporting would examine the following:

- the accuracy and timeliness of financial information provided to central agencies;
- the relationships between the internal financial reporting system including PMC reports and the DSS system;
- the extent to which the financial reports are used by managers in the decision-making process.

2. Audit Priorities

In establishing audit priorities, consideration must be given to the complexity, size and materiality of the system under review, in addition to the concerns of management about the various systems and their priorities.

The ranking of the audit areas reflects the above considerations:

- Expenditures;
- Financial Reporting;
- Budget preparation and control.

Expenditures are the principal financial system and most critical in terms of financial controls. It has the largest volume of transactions. In addition, pay, the largest sub-system of expenditures, has not been reviewed since March 1976.

Since no audit activities have taken place in 1978/79, the expenditures audit should be carried out in this fiscal year, in advance of the three-year plan. Then the audit should be repeated in the third year of the plan.

For audit purposes, financial reporting systems are considered less critical than expenditures. However, there are three systems of financial reporting inside the Ministry - DSS, financial, and program management financial. The quality, reliability, timeliness and efficiency of these

systems must be assessed. In addition, with the comprehensive review of programs commencing in the first year of the three-year plan, it would be advisable that the review of program management financial reporting be scheduled at the same time as the Program Audit.

Budget preparation and control is scheduled in the second year of the three-year plan. Although some management concerns were expressed about prompt funds availability from the PMC pool of resources, it is felt that the problem was not of a critical nature. Other than pay, there are very few material expenses of a volatile nature that have to be planned for and controlled.

3. Resources

Each audit area will be reviewed from two perspectives: management and operational. The management review would focus on objective setting and degree of achievement, standards and quality of service and the efficiency of each of the various financial systems. The audit resource for this type of review would be an operational auditor. The operational review of the financial systems would be completed by a financial auditor.

The following resource requirements and costs are anticipated:

| | | |
|-----------------------------------|----------------|------------|
| - expenditures: | 6 person-weeks | \$6,600.00 |
| - financial reporting: | 3 person-weeks | \$4,050.00 |
| - budget preparation and control: | 3 person-weeks | \$4,050.00 |

APPENDIX IIICOMPREHENSIVE AUDIT - CORPORATE SERVICES1. Audit Areas

Corporate Services, excluding finance, is comprised of the following four divisions: Personnel, Communications Services, Administrative Services, Research and Information Services. Each division is suitable for and should be subject to a comprehensive audit.

Personnel

The audit will include a review of the following areas:

- staffing;
- training;
- human resources planning;
- classifications;
- staff relations; and
- personnel services.

A personnel audit will examine these areas with focus on the following issues:

- the degree to which personnel objectives have been set and met;
- the quality of service intended and actually provided;
- the efficiency of the personnel system;
- the degree to which regulations and guidelines established by central agencies are known, understood and followed;
- the extent to which personnel services data is collected, manipulated and reported accurately.

Communications Services

The major functions exercised by this division are: publications, parliamentary returns and liaison, word processing and printing.

All these areas will be audited, mainly with a view to assessing the adequacy and the efficiency of the services provided.

Administrative Services

The activities of administrative services that would be reviewed would be those associated with records management, materiel management and clerical and office services. The audit would encompass purchasing, inspection and storage activities, security, accommodation, registry and mail operations.

As in communication services, there would be an assessment of the adequacy of the service provided as well as a review of the overall efficiency of the system of administrative services.

Research and Information Services

Research and information services is composed basically of the library and a computerized data base. The review would focus on the information activities associated with the service. In addition, there would be an assessment of the economy and efficiency of the service, the usefulness of the products generated from the service and the adherence to directives and guidelines on computer controls.

2. Resources

The comprehensive review of other corporate services will involve an examination of each service in terms of its purpose, policies, goals and objectives, procedures followed, results produced. The service aspect of corporate services will be examined closely to ensure the effectiveness of the product. The efficiency of the respective systems will also be assessed.

The intent is to assign an OM5 the responsibility for the comprehensive review of corporate services.

3. Audit Priorities

It is planned that Communications and Administrative Services would be formed into a combined audit area. This combined audit area, along with Personnel and Research and Information Services, would form three audit areas to coincide with the three-year plan.

In our opinion, priority should be given to Research and Information Services because of the following concerns:

- present and anticipated cost of equipment;
- the need for measuring the economy, efficiency and effectiveness of the services provided; and
- availability of alternate sources for similar information.

This area should be the first audit in other corporate services and is planned in year two. The timing of this audit is due to preliminary discussions regarding funds availability for the audit activity. The estimated available audit funds in year one are planned for program audit which relegates the review of Research and Information Services to year two. If additional funds were made available for audit in year one, then the Research and Information Services should be audited at that time.

Regardless of the timing of the audit of the Research and Information Services, it is anticipated that the audit would last ten man-weeks at a cost to the Ministry of \$15,000.00.

Personnel, Administration and Communication Services are scheduled in the last year of the three-year audit plan. If priorities have to be established between the two audit areas, personnel services should be given preference. In an organization that is so much dependent upon the quality of its resources, personnel services cannot be overlooked. Administration and Communications areas showed no evidence of problems during our preliminary assessment and are relatively small and static. As a result, this area should be considered to have the lowest priority.

Since these two audits will take place in year three of the audit (1981-82) it is not appropriate at this time to forecast time and costs of these audits.

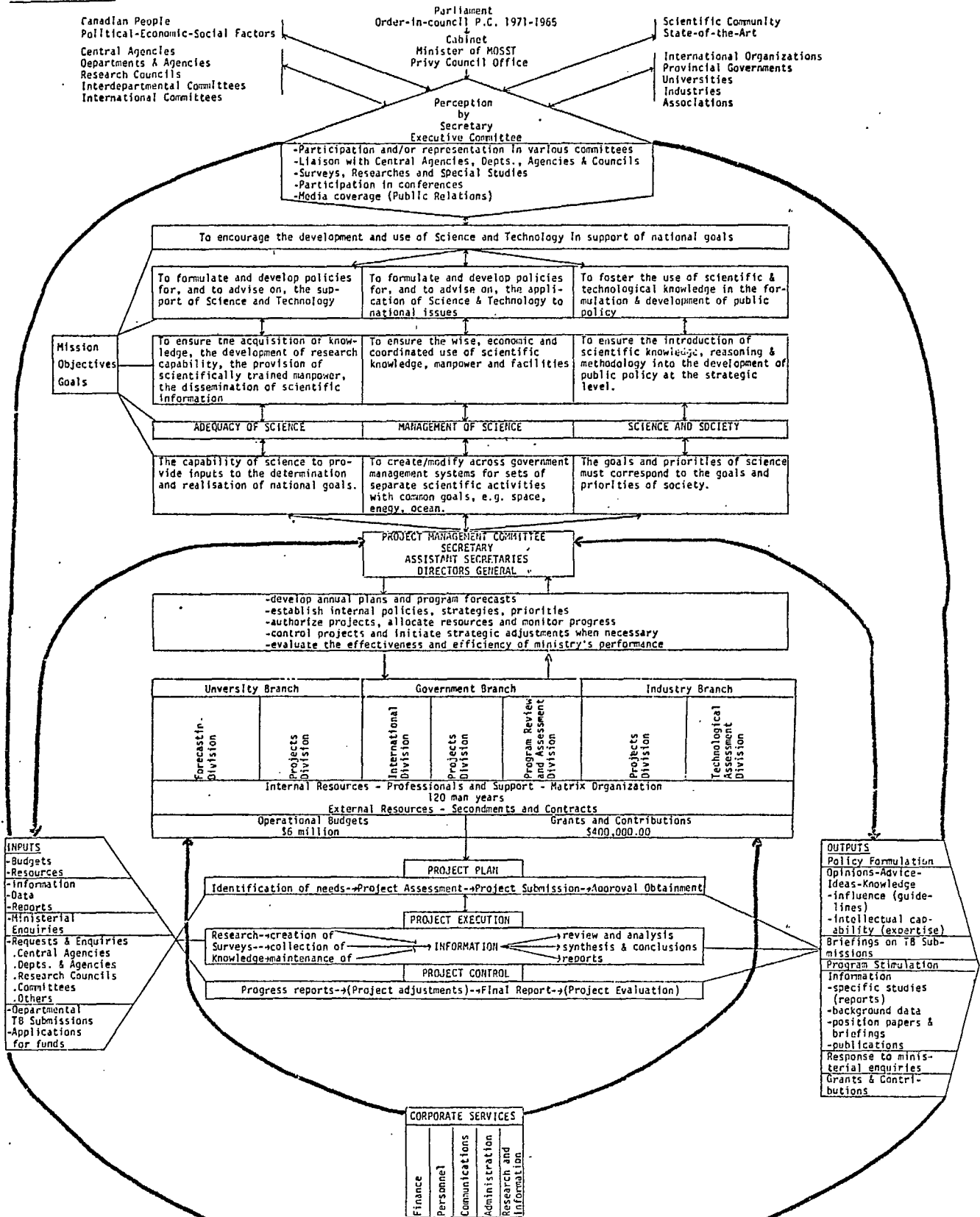
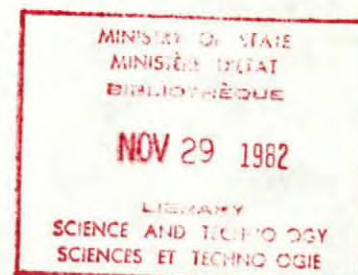


EXHIBIT 2MINISTRY OF STATE FOR SCIENCE AND TECHNOLOGYAUDIT SCHEDULE

| | <u>1978/79</u> | <u>1979/80</u> | <u>1980/81</u> | <u>1981/82</u> |
|----------------------------------|----------------|----------------|----------------|----------------|
| <u>FINANCE</u> | | | | |
| - Expenditures | x | | | |
| - Financial Reporting | | x | | |
| - Budget Preparation and Control | | | x | |
| - Expenditures | | | | x |
| <u>SERVICES</u> | | | | |
| - Personnel | | | | x |
| - Administration | | | | x |
| - Communications | | | | x |
| - Research & Information | | | x | |
| <u>PROGRAMS</u> | | | | |
| - Comprehensive audit | | x | | |
| - Follow-up | | | x | |
| - Special Audits | | | x | x |



MINISTRY OF STATE FOR SCIENCE AND TECHNOLOGY

THREE-YEAR AUDIT PLAN

| <u>YEAR</u> | <u>AUDITS</u> | <u>AUDITORS</u> | <u>DURATION</u> | <u>RATES</u> | <u>COSTS</u> | <u>STARTING</u> | <u>COMPLETION</u> |
|-------------|------------------------------|-------------------|----------------------------|------------------|--------------|------------------|-------------------|
| 1978/79 | Expenditures | OM5 | 15 days | \$240.00 | \$ 3,600 | 5 Feb./79 | 26 Feb./79 |
| | | AU2 | 15 days | \$195.00 | 2,925 | | |
| | | | | | \$ 6,525 | | |
| ----- | | | | | | | |
| 1979/80 | Program | OM6 | 40 days | \$300.00 | \$12,000 | 10 Sept./79 | 5 Nov./79 |
| | | OM5 | 30 days | \$270.00 | 8,100 | 10 Sept./79 | 19 Oct./79 |
| | | Internal Resource | 30 days | no cost | \$20,100 | | |
| | Financial Reporting | OM5 | 15 days | \$270.00 | \$ 4,050 | 22 Oct./79 | 12 Nov./79 |
| ----- | | | | | | | |
| 1980/81 | Budget Preparation & Control | OM5 | 15 days | \$300.00 | \$ 4,500 | To be determined | |
| | Research & Information | OM5 | 40 days | \$300.00 | \$12,000 | To be determined | |
| | Follow-up on Programs | OM6 | 15 days | \$330 | \$ 4,950 | To be determined | |
| | Special Audit | - - - - | - on a needs basis - - - - | | | | |
| ----- | | | | | | | |
| 1981/82 | Expenditures | | | | | | |
| | Personnel | | | | | | |
| | Administration | | | to be determined | | | |
| | Communications | | | | | | |
| | Special Audits | | | | | | |

EXHIBIT 3

