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PROJECT MANAGEMENT AND ORGANIZATION FOR

PREVENTIVE

(ANTICIPATORY)

ENVIRONMENTAL MANAGEMENT

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A Case Study
of the
Participation by Fisheries and Environment Canada
in the
Public Inquiry
by the
Ontario Royal Commission on Electric Power Planning

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PROJECT MANAGEMENT AND ORGANIZATION FOR
PREVENTIVE
(ANTICIPATORY)
ENVIRONMENTAL MANAGEMENT

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PREFACE

Public inquiries and other participatory processes are becoming increasingly popular as an instrument of public decision making at all levels of government. This trend can be expected to continue for the foreseeable future. Such processes offer an opportunity for the Department (Fisheries and Environment Canada) to influence and guide external developments in more environmentally appropriate directions in order to prevent or reduce potential adverse impacts well in advance of implementation or operationalization stages. Thus, a policy of active involvement in those participatory processes which have significant implications for environmental quality is an integral and essential component of anticipatory or preventive environmental management.

This paper is intended to provide a "learning experience" for developing Departmental responses to future public inquiries or tasks, particularly those which require an interservice and/or H.Q./regional project structure. In this regard, it should be viewed as an example rather than a model. It also seeks to encourage the development of a Departmental policy and organizational framework for a preventive environmental management thrust within which future responses can take place.

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1. INTRODUCTION

Ontario Region regarded the inquiry by the Ontario Royal Commission on Electric Power Planning (Porter Commission) as an opportunity to effect preventive environmental management through seeking to incorporate environmental considerations into the long-range planning of electric power developments in the province from the start. This involvement in the Commission's inquiry was seen as particularly crucial in view of the magnitude of the planned electric power system expansion (three-fold increase in generating capacity over the next twenty years) and the accompanying substantial implications for future environmental quality. Although initial activities were largely Regionally oriented, the policy implications of the project soon required a broader Departmental and, particularly, Headquarters involvement.

The primary focus of Departmental involvement in the Commission's inquiry was the preparation of two submissions, one for the Public Information Hearings in 1976 [1] and the second for the Final (Debate Stage) Hearings in 1977. The second submission consisted of two papers [2, 3] which built on the more general information base provided in the first submission to provide definitive position statements on energy conservation and on the more significant environmental concerns associated with power generation from hydro, fossil fuel, nuclear, and renewable energy sources, as well as on the transmission of electric power. A summary review of Departmental activities associated with the Commission's inquiry, accompanied by historic activity flow charts, is appended to this paper (Appendices A, B, and C).

This paper documents, discusses, and offers a personal assessment of the organizational structure and process which was established to carry out this energy project. As the project organization for the second submission was similar to, but more comprehensive than, that for the first submission, the ensuing sections will pertain to the structure and process used to produce the second submission only and, particularly, to produce the technical paper [3]. Before proceeding, the reader who is unfamiliar with the project history is encouraged to read the attached summary review (Appendix A).

2. ORGANIZATIONAL PHILOSOPHY, STRUCTURE, AND PROCESS

One approach for responding to the Porter Commission project might have been for Ontario Region to have gone ahead on its own to draft a submission and then seek SMC approval. However, as was clearly brought out in preparing the first submission, both the substantial implications of the submission to Departmental policy and the need to tap every relevant source of Departmental expertise made it necessary to have a project organization concept to involve both Headquarters policy levels and sources of Departmental expertise from the start. The tightness of the time frame made this particularly imperative, in order to minimize the need for extensive redrafting at the last minute. Thus, the organizational philosophy saw the development of successive submission paper drafts moving through a staged, internally correcting, iterative process designed to both develop technically sound positions with adequate justification while, at the same time, ensuring general harmony with Departmental policy thinking throughout the process.

The strategy to implement this philosophy was as follows:

- (a) Senior management approval and support for the project was obtained (January 27) before project commencement. This ensured the commitment and support of each service from the top down and paved the way for active involvement of relevant sources of expertise from within each service on a priority basis.
- (b) At the same time, senior management approval of the general concept and outline of each submission paper was obtained to guide the submission development process within an approved framework.
- (c) A clearly defined responsibility focal point for project management (i.e., planning, decision making, organization, and coordination of the total Departmental effort) was established. Since the project was recognized as largely a Regional initiative

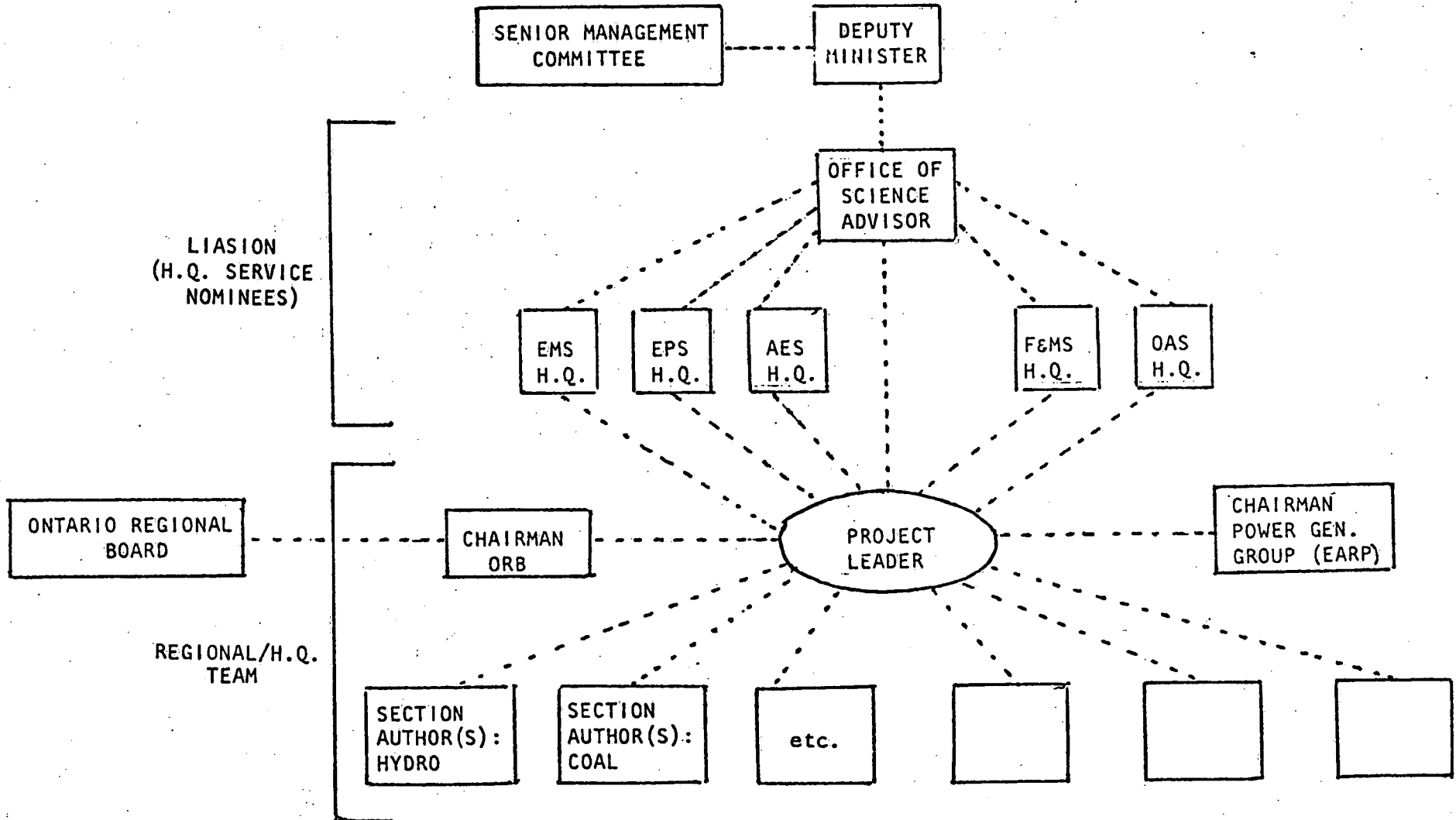
and responsibility, the focal point for project management was Regional. At the general project management level, this function was carried out by the Chairman of the Ontario Regional Board who provided the key link with the Ontario Regional Board and the link between Ontario Region and Senior Management Committee. Project leadership for getting the job done within the management framework provided was also carried out Regionally. In addition, the Office of Science Advisor at Headquarters took the responsibility for transforming the final draft version of the submission into official Departmental policy. Thus, a tri-level management structure was adopted: Headquarters--policy; Regional--management; and Regional--project leadership.

- (d) A joint Ontario Region/Headquarters project structure was established to ensure broad-based Departmental involvement throughout the submission development process. As seen from Figure 1, the project structure consisted of two main components:
 - (i) A Headquarters liaison network consisting of one nominee from each service, with central coordination by the Office of the Science Advisor (OSA). It was the responsibility of each H.Q. nominee to ensure the full involvement of his respective service by receiving and distributing submission drafts to appropriate people within the service and coordinating the feedback of comments and information inputs. It was stressed that service review should proceed vertically to include management and policy levels, as well as horizontally across internal service components.
 - (ii) A Regional/H.Q. team consisting of project management elements and section authors responsible for the drafting of individual sections or subsections. By having a combined Regional/H.Q. team, the most appropriate source of expertise for each section or subsection could be directly involved from the start.

Figure 1

MAIN PROJECT COMMUNICATION LINKS

DEVELOPMENT OF DEPARTMENTAL SUBMISSION TO PORTER COMMISSION



- (e) An iterative process was instituted (see Flow Chart in Appendix 3) consisting of the preparation of a series of drafts for the technical paper, each one building on the feedback obtained from the previous draft. In order to help ensure continual balance and consistency of the total paper and proper linkages among individual sections, all section drafts were pulled together at the end of each drafting cycle and synthesized by the project leader as a complete document before being distributed for Departmental review. In some cases, this meant leaving information gaps (which were clearly identified where possible) in order to avoid delaying the review cycle. The subsequent feedback assisted in filling these gaps. An alternative approach would have been to circulate individual section drafts as they became available. However, this approach would have reduced the project leader's control over adherence to schedules, in addition to obvious problems of synthesizing sections into a unified and balanced document at the final draft stage.
- (f) Activities on the "critical path" were streamlined and compressed. One technique employed to this end was the use of the telephone, print, and telecopier media, in lieu of attempting to arrange meetings of authors and/or liaison nominees at key points in the submission drafting process. It also consisted of establishing a small but highly efficient and hard working editing and production team working directly with the project leader to edit, type as required, and distribute the draft document within several days turn-around time after receipt of section drafts from individual authors.

3. DISCUSSION AND RECOMMENDATIONS

The project organization approach utilized was designed to produce a major policy document on a comprehensive scale for a particular "client" in a relatively short period of time, the success of which would be dependent on the participation of a broad cross-section of Departmental management, policy, and technical expertise levels. The following discussion is relevant to future projects of a similar nature.

3.1 TOP MANAGEMENT SUPPORT

As the project entailed both a significant commitment of staff time throughout both Headquarters and Ontario Region (other regions contributed also), and the development of official position statements which required top management approval, the approval and support of Senior Management Committee (SMC) was sought and obtained before project commencement. Approval included general project guidelines for development of the submission, based on the proposal prepared by Ontario Region to SMC for a second submission. These guidelines provided the means to flesh out a more detailed project framework to guide the development of both the project organizational structure and the actual submission papers. Management support took the form of SADM's and ADM's giving support within their respective service(s) to ensure project related activities were given due priority, and appropriate service resource people and information were made available. The members of the Ontario Regional Board (ORB) gave similar support within Ontario Region.

Involvement of top management from the start was essential to project success. It manifested the participatory principle that the involvement of those who will be affected by a project or whose support is essential should be structured in at the start, not the end, of the process.

3.2 PROJECT MANAGEMENT

In addition to top management support, the other key ingredient to project success was the establishment of a clear focal point for project management and responsibility. The tri-level approach adopted, as discussed below, provided a Regional focus, with Headquarters tempering, to ensure suitability of the "product" at a national (Departmental), not just regional, level.

Policy:

The Science Advisor was delegated the critical responsibility for shaping and polishing the draft submission papers into official Departmental policy documents. This was facilitated by the continuing close and active involvement of the Office of Science Advisor (OSA) throughout the submission development process. Again, the importance of the principle of participation is illustrated.

General Management:

Regional project management in the capacity of the Chairman of the ORB provided the driving force to mobilize the broad-based Departmental effort, with top management and Regional management support. The Chairman also provided project guidance, crisis resolution, and management backup to the project leader, as well as serving as the official Departmental spokesperson for presenting the approved papers to the Commission. The project management function, as exercised by the Chairman, was absolutely critical to both the successful initiation of the project and to its sustained momentum through to completion. The success of future efforts of this nature will be limited substantially unless a project manager with stature can be appointed who will perform this key role with similar vigour and enthusiasm.

Project Leadership:

The third project management level, the project leader function, was also a key component. It is important that the project leader be endowed with basic management qualities and a sense of purpose, understand the importance of comprehensive participation, have the personality to relate easily with staff at all levels in order to build cooperation (an authoritarian style of project management would be a disaster, particularly where cross-service cooperation is essential), be flexible and adaptable to changing circumstances, and possess not only a general knowledge of the project subject area, but also a perspective of the broader Departmental and external context within which the project process must take place. It is not necessary that the project leader have an intimate technical knowledge of the project subject area, e.g., environmental effects of electric power production -- this expertise can be provided through appropriate selection of the project team members. However, it is important that the project leader have the knowledge perspective within which submission components can be integrated and related to the broader context.

3.3 PROJECT ORGANIZATIONAL STRUCTURE

The project structure (see Figure 1) was basically matrix in form and reflected an "integrated program" approach. In contrast to being conducted exclusively by one service, or by a service acting as lead agency, all project role components -- management, section authoring, and liaison -- "cut across" Departmental services and also across (Ontario) Regional/H.Q. units.

It is not necessary that the project management component be cross-service (e.g., project manager from EPS, project leader from EMS, as was the case with this project), but it does give the involved services a more direct interest in the project. Also, the section authoring team need not necessarily be cross-service since it is expertise rather than

representativeness that is being sought. However, author representation from different services can strengthen overall service commitment also. Particularly important for tapping Departmental expertise is the concept of a joint regional/H.Q. authoring team (used in this case) where regional sources of expertise are complimented by corresponding expertise in H.Q. This broadens the direct knowledge base, yet maintains the regional focus (assuming this to be desired).

The liaison network (which, in this case, consisted of one nominee from each service, with a nominee from the OSA as the H.Q. focal point) is essential to fill any information gaps not covered by the section authoring team. Particularly critical to the development of an accurate and complete submission document, which bears reasonable Departmental consensus, is the role of the service nominees in the review and feedback process for submission drafting. A member of the policy group for each respective service would seem to be the ideal choice for service nominee since his/her regular work normally cuts across all internal service elements and also interfaces directly with the respective service management. This would facilitate the selective, yet comprehensive, involvement of policy, management, and scientific/technical elements from within the respective service.

3.4 FRAMEWORK FOR SUBMISSION DEVELOPMENT

One approach to submission development is to call up a number of Departmental experts and ask them to write up something on their area of expertise as it relates, e.g., to energy developments. This can be an extremely inefficient and ineffective approach as a major effort would be required to synthesize section drafts into an integrated submission document. This would result in much frustration both to the synthesizer as well as to the individual authors. In addition, considerable gaps within sections and overlaps among sections would likely result.

It is vital for both the efficient and effective use of scarce Departmental resources, particularly where tight deadlines are involved, to ensure the submission development process takes place within a guiding framework which has management sanction and support. In this case, the framework took the form of a detailed and reasonably complete outline of each submission paper, which was prepared from the submission proposal approved by SMC in January. These outlines were not seen as a rigid prescription. Rather, they were regarded as a starting point for giving direction to an evolving submission development process which would be responsive to Departmental feedback while, at the same time, providing an ongoing, updated manifestation of the desired end product. The framework also provided a vehicle into which individuals throughout the Department could "plug in bits of information" to help complete the "mosaic" without the need to review or respond to the complete outline. At the same time, the total submission paper picture was available to provide a context within which to tailor inputs. This philosophy of an evolving submission development framework was carried forward from the initial, draft outline stage by successive submission drafts (see next subsection below) which "added flesh to the bones".

3.5 ITERATIVE CYCLE FOR SUBMISSION DEVELOPMENT

In addition to the submission outline stage at inception, the submission development process for the technical paper consisted of three successive drafts before the final editing into a Departmental document (see Appendix C). The first draft of the Technical Paper consisted of section draft inputs from each author which included feedback from the outline which had been widely distributed. These were modified in some cases (several sections were disproportionately long and had to be condensed, while others deviated somewhat from the guidelines and had to be rewritten by the project leader) to ensure overall consistency and a suitable guide for the next drafting round. In addition, the section inputs were compared to the detailed outline to identify any information gaps. Any gaps were highlighted and a specific request for information

noted in the appropriate location in the section. The tight overall schedule required priority to be given to getting a draft product out at the expense of having incomplete sections.

The second draft incorporated feedback from the review of the first draft. However, time did not permit waiting around for feedback. Authors were requested to actively solicit inputs to fill information gaps as well as to rework their section draft to better fit the overall context, while waiting for feedback results. The target for the second draft was a complete document, with no gaps. The intent was to ensure all information which would appear in the actual submission would be subjected to broad-based Departmental scrutiny (the next stage did not provide for this). This objective was largely achieved. The final draft, which incorporated feedback from the second draft review, then served as a basis for policy editing by the CSA.

Based on the above experience, an iterative process consisting of one submission outline and three draft submission stages seems appropriate for the development of a comprehensive policy document of this nature. Any further review would risk a rapid decline in motivation on the part of those involved in the review process (people get fed up seeing the same thing too often, especially when it is several hundred pages long). By giving everyone interested a "kick at the cat" throughout the development process, the Departmental knowledge base is expanded, not only in document form, but also in increasing the knowledge of the reviewers themselves.

A broad-based participatory review process of this nature entails an "opportunity loss" in the form of time lost which otherwise would have been spent on other projects (or leisure, family, etc., in the case of overtime). In this case, it was felt that broad Departmental participation was essential to adequately address an issue with such profound environmental implications for both the short and long-term future. In order to make effective use of resources, and minimize adverse "costs" to other projects, etc., service nominees undertook to parcel out sections or subsections to relevant staff members within their service on a selective

basis while, at the same time, ensuring a service perspective was maintained on the overall document. The option was available for individuals to review and comment on any section, whether within their sphere of expertise or not, according to their interests and availability of time.

Effective use of time was also increased by substituting communication for transportation (to meetings). The evolving submission development framework (the outline plus successive drafts) served as the main vehicle to facilitate information inputs, and to coordinate, guide, and achieve basic consensus throughout the submission development process, thus obviating the need for time consuming, and often inconclusive, face-to-face meetings to perform a similar role. The coordinating framework was supported by heavy use of the telephone and telecopier. This approach ensured rapid decision making and flow of information, as well as enhancing project control such that schedules and direction could be maintained.

3.6 WHY THE NEED FOR A FINAL RE-EDIT?

In view of the elaborate organizational structure and process instituted, one could ask why re-editing by the OSA was necessary in order to produce an officially approved document. One obvious reason was that the participatory process produced proposed policy statements from a more technical (vs. management) level for application to a specific region (i.e., Ontario). Most of the statements produced had not been documented before and had significant implications for Departmental policy on a national basis. The full implications of these statements could only be assessed after they had been produced on paper. Due to the compressed time schedule, the shaping of official policy lagged the momentum of document development, hence requiring significant changes to proposed policy statements and accompanying information backup in some cases. Another reason for a final re-edit was the desire to streamline the document to meet more directly the interests of the client, i.e., the Commission, whose information needs were becoming more specific with experience.

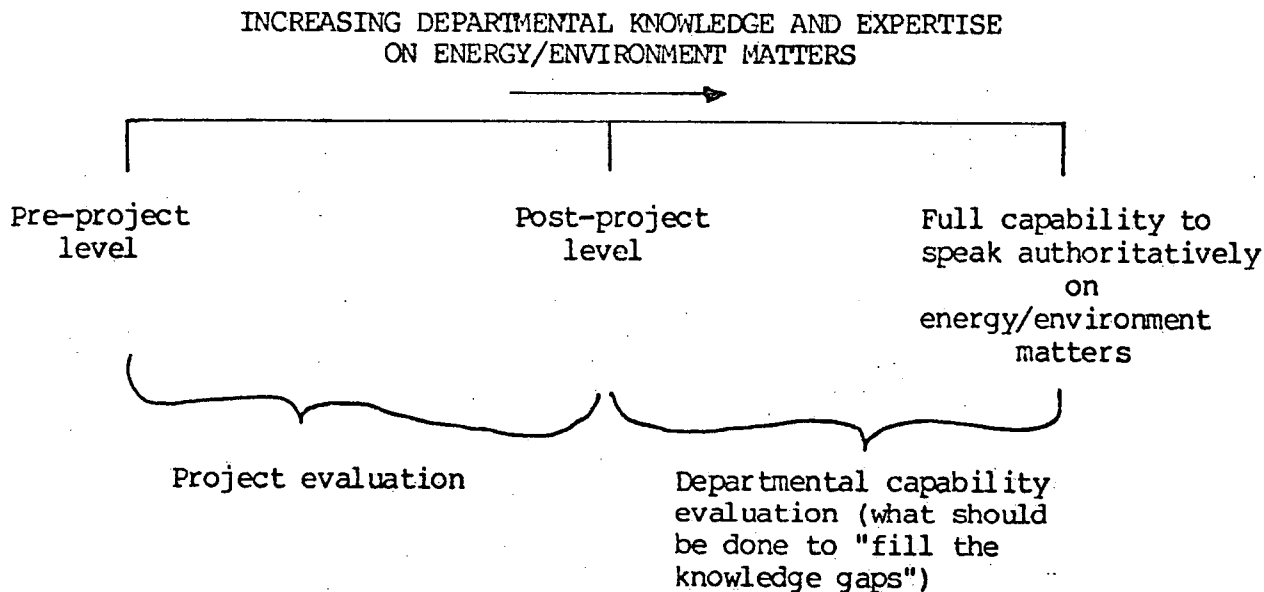
Although not completely utilized in the final submission documents, the total information base produced in the process will not be wasted. Steps are now being taken to preserve the information base developed, for future reference.

4. OVERVIEW EVALUATION

Any assessment of project success depends on the criteria chosen. On the basis of output alone (a full evaluation would have to include resource inputs, including opportunity losses to other Departmental activities and projects), the ultimate criterion would relate to the degree to which environmental quality would be protected through a more environmentally appropriate energy system for Ontario, as a result of recommendations by the Porter Commission founded on, or reinforced by, the contents of the DFE submissions. For purposes of a more immediate and direct evaluation, the output criterion could be defined as the extent to which authoritative statements were made, with full justification or technical backup, on all aspects of Ontario's electric power system development which would have a significant, or potentially significant, environmental impact either in Ontario or beyond provincial boundaries.

Despite the comprehensive tapping of expertise throughout the Department, there were many areas of environmental concern where adequately supported authoritative statements could not be made. One particular weakness of a more fundamental nature was the lack of authoritative statements on the effects (not just pollutant outputs or acres of land consumed by site developments, etc.), in environmental as well as social (including health) and economic terms, of energy system development and operation. Another area of weakness was the lack of an adequate methodology, together with necessary information and analysis, to make authoritative statements on the relative environmental preferability of the various energy supply options (nuclear vs. coal vs. solar, etc.). This latter area of weakness substantially reduced the value of the submission as a manifestation of preventive environmental management through its lack of definitive recommendations on the choice of more environmentally appropriate energy options to meet future Ontario energy needs. From the standpoint of highlighting Departmental weaknesses and identifying areas for future research, the project had some success, although the potential in this regard has not been fully exploited.

The criterion of absolute authority of knowledge is obviously an excessive standard from which to judge the success of this particular project. A more realistic approach would be to assess the degree to which the Departmental level of knowledge and pool of expertise has advanced toward this ultimate objective as a result of the project. As the project concentrated on compiling and organizing existing knowledge (rather than on researching new information) and applying it to a specific subject area (i.e., electric power developments in Ontario), the major advancement was in terms of information synthesis and applicability (i.e., to energy matters) and the broadening of the base of knowledge and expertise throughout the Department on energy/environment matters. This assessment criterion approach is illustrated conceptually below.



The extent to which the Department can approach the full authority capability level will be the major determining factor in the successful implementation of a policy of anticipatory or preventive environmental management in a particular issue area in future.

5. GENERAL RECOMMENDATIONS

5.1 REGIONAL ENERGY COORDINATOR

An energy coordinator should be established in each region, reporting to the Chairman of the respective regional board. The coordinator might not necessarily work exclusively in this capacity initially (he/she might be given other issue areas to coordinate also), but energy would be an ongoing responsibility. The coordinator's role would consist of anticipating and monitoring energy developments affecting, or likely to affect, the region. This would include transboundary problems and developments in other regions. The coordinator would play a key role in planning and/or developing any Departmental response to energy-related issues as they arose and generally would serve as a regional focal point for energy matters relevant to the Department. He/she would also participate in Headquarters energy policy development and programs as appropriate.

5.2 PARTICIPATORY POLICY DEVELOPMENT

In the development of future Departmental policies, a policy development process manifesting broad-based Departmental participation should be instituted where the policy has broad environmental implications (thus requiring expertise from a number of Departmental sources) or where policy implementation will be carried out by a number of Departmental elements. Participation should take place from policy conception through to final vetting of the policy document. As a general principle, those who have an interest in, or will be affected by, the policy should have the opportunity to participate from the start. This principle would apply both to the definition of general Departmental policies and to the elaboration of specific policies or the development of particular programs within a general policy framework.

Comprehensive participatory policy development would include the following dimensions (not all of which were exemplified—or exemplified effectively—by the particular case study of this paper):

H.Q./Regional:

It is particularly important that regional participation be solicited if it is the regions which must implement the policy. Their participation would help to ensure policy relevance and effectiveness of implementation on a regional and, hence, national (DFE) basis. In cases where the policy would be unique to a particular region or in the case of the development of a particular regional manifestation of a broader national (DFE) policy, it may be appropriate for the region concerned to take the lead.

Multi-Service:

Participation of affected services not only broadens the base of expertise that can be tapped for policy development, but also lays the groundwork for policy implementation through, for example, integrated (inter-service) programs.

Multi-Level:

One approach is to have policy development take place largely at policy and management levels, with the role of other Departmental levels confined mainly to a review function. Another approach which is exemplified by the project case study of this paper is to have policy development carried out largely by the relevant sources of expertise. It is essential, however, that this form of "delegated" policy development take place within a comprehensive, dynamic policy (including project management) framework, be subject to regularly scheduled review, and be

subject to final vetting--all the primary responsibility of policy and management levels in the Department. This latter approach is analogous to the concept of contracting out and implies increased emphasis by policy units on managing (of policy development processes) rather than on doing the actual policy development.

External:

The concept of participatory policy development can be extended to include outside (external to the Department) sources of expertise or needed resources. This would include soliciting the assistance of expertise from other departments or levels of government, as well as contracting out to the nongovernmental sector certain project components within a policy development framework using "systems management" techniques. It would also include establishing suitable mechanisms for involving the general public or specific interest groups either as a source of expertise or as a vehicle for policy implementation [4].

Comprehensive participatory policy development can be an extremely effective approach to environmental management. However, its success will depend substantially on careful front-end planning of policy development as a process, and on the utilization of appropriate management techniques to involve the desired participatory network.

5.3 MAIN STEPS FOR PARTICIPATORY POLICY DEVELOPMENT

Based on the case study of this paper, the general steps for participatory policy development include:

- a) Establishment of a project management system consisting of policy, line management, and project leader elements.

- b) Preparation of a proposed policy framework by policy or management components, following consultation with key people who would be involved in the policy development process.
- c) Approval by senior management of the policy framework as a guide (not a rigid prescription since full knowledge is lacking at this stage) for the policy development process.
- d) Establishment of a project organizational structure and process designed to ensure effective participation of relevant and interested elements (regional, service, multi-level, and external, as appropriate).
- e) Development of successive draft documents through an iterative, feedback process.
- f) Massaging and editing of the final draft document by the top Departmental policy level, and final review of any changes by key Departmental experts.
- g) Approval of the finalized document by senior management (and submission to the client if there is one).
- h) Implementation of the policy. Also, application of project experience and outputs to future H.Q. and regional activities, e.g., for assisting in similar future endeavours.

5.4 PARTICIPATION IN FUTURE INQUIRIES AS AN EVALUATIVE MECHANISM

The major reason for participation (by DFE) in public inquiries is to seek the incorporation of environmental considerations into decision-making processes. Another potential, but less direct, benefit is the opportunity that external involvement provides to evaluate how well the Department stands up in external policy development or decision-making processes, and how its effectiveness in influencing "the forces of growth" can be improved. The objective should be to speak with authority of knowledge (not just authority of the law). If the Department does not measure up to this standard, it can become obvious under cross-examination in public or in the quality of DFE inputs to interdepartmental processes. Provided there is a willingness to evaluate critically and to act on exposed weaknesses through strengthening Departmental capability for the future, participation can be the surest route to social relevancy which transcends a purely environmental or resource management rationale. By developing a capability to respond to issues which occupy centre stage in the political process, thereby helping to increase Departmental relevance to broader social issues, a case will be made for an increased allotment of resources to expand the Department's role into more preventative forms of environmental management.

5.5 POLICY OF ANTICIPATORY ENVIRONMENTAL MANAGEMENT

A Departmental framework for anticipatory (or preventive) environmental management should be developed as a specific, but complementary, environmental management thrust, along with pollution control and resource management. This framework would guide the development of an ongoing capability at H.Q. and regional levels to anticipate and respond to current and emerging "external" issues of environmental significance. The organizational philosophy for implementing this thrust could be program-oriented, thus obviating the need for major structural change such as the addition of another Departmental service.

Public inquiries and other participatory processes (including interdepartmental policy processes) offer a particular opportunity to implement a preventive environmental management thrust. The objective would be to prevent environmental damage from occurring in the first place by ensuring external decision-making processes fully incorporate environmental considerations from the start as an integral component in planning processes. The addition of a strong preventive thrust to current environmental management approaches would contribute substantially to overall effectiveness in achieving environmental quality objectives. It would also enhance the effectiveness of, or reduce the need for, pollution control, abatement, and remedial programs.

6. REFERENCES

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APPENDICES

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APPENDIX - A

SUMMARY REVIEW

DEPARTMENTAL ACTIVITIES ASSOCIATED WITH PORTER COMMISSION INQUIRY

Preliminary Activities (Fall 1975 to June 1976)

In the fall of 1975, the Commission held preliminary hearings throughout the province. These hearings aroused the interest of both the Ontario Regional Board and the Ontario EMS Power Generation Group, particularly from the point of view of the environmental implications of large-scale electric power developments in the province. In order to identify more clearly these implications, a series of workshops arranged by the Power Generation Group was held from January to March 1976. The product of the first three workshops was a series of issue papers on the electric power theme entitled "Environment", "Energy Supply and Conservation", and "Social and Land Use". The three papers provided information support to discussion themes on the same subjects for the Ontario Regional Board Energy Workshop held on March 11, 1976, which included management as well as staff participants from the Region and also from Ottawa. Conclusions and recommendations arising from this workshop provided the information base for preparing an initial draft of a submission to the Commission. The Head of Social Sciences Division was given responsibility for preparing this submission. This draft was circulated throughout the Region for comment and information inputs. After several successive review and revision cycles, the Ontario Regional Board decided a more comprehensive document was required to adequately address the broad energy/environment issue area. A project leader for this task was appointed from SSD (D. Robinson) in July 1976.

In the meantime, the Chairman of the Commission, Dr. Arthur Porter, formally requested to hear from the Department in his letter of May 6, 1976. Confirmation of the Department's participation was conveyed to Dr. Porter by the Deputy Minister on May 31, 1976.

Preparation of First Submission (July 1976 to November 1976)

The scope and complexity of the environmental implications of proposed electric power developments in the province required that every relevant potential source of information and expertise within the Department be tapped. A Headquarters and Ontario Region liaison network was established consisting of contact people from each Headquarters Service, with the Office of Science Advisor serving as the focal point, and from the various Ontario Region Services (AES, EMS, EPS, F&MS) including EMS directorates (IWD, CCIW, CWS, GLFRC, Lands). The role of the liaison network contact people was to both tap information sources and solicit comments on submission drafts from within their group. A small Regional authoring team was assembled under the project leader. The team produced a comprehensive draft outline of the submission which was circulated through the liaison network on July 22, 1976. Based on the outline and feedback received, a 300-page draft submission, dated August 20, 1976, was prepared and circulated through the liaison network. The resulting feedback assisted in the preparation of the final draft version, dated September 24, 1976, which was presented to

the Senior Management Committee meeting on September 30 by the Chairman of the Ontario Regional Board. As a result of this meeting, a considerably revised and condensed version, dated October 8, 1976, was prepared by a joint Headquarters-Ontario Region effort, with each section being reviewed and signed off by appointed senior Departmental officials. On October 12, 100 copies of this finalized version were forwarded to the Commission, and a similar quantity distributed throughout the Department.

Following a dry run practice session on October 29, the submission was presented to the Commission on November 4 by a four-man panel from the Region headed by the Chairman of the Ontario Regional Board.

Proposal to Senior Management
Committee for a Second Submission (December 1976, January 1977)

The first submission was largely an informational document designed to bring to the Commission's attention the more significant environmental concerns associated with electric power developments in the province, as a contribution to the "Information Hearings" stage of the inquiry. The Commission was very receptive to our submission and expressed the desire to hear from us again during the next stage of the inquiry process--the Debate or Final Hearings stage. Particular interest was expressed in receiving specific Departmental positions and recommendations on conventional and nuclear alternatives and on assessment of the potential of renewable energy sources.

A proposal for a second submission was prepared and presented to Senior Management Committee by the Chairman of the Ontario Regional Board on December 16. SMC comments on the proposal were incorporated into a second proposal which was presented and approved on January 27. The submission would consist of a comprehensive, authoritative "technical paper" on Departmental concerns, positions, and recommendations associated with conventional, nuclear, and renewable energy sources, together with two short discussion papers on energy conservation and an environmentally sustainable society.

Development and Presentation of
Second Departmental Submission (February - July 1977)

The organizational structure for the second submission was similar to that for the first submission except that several more members from both Headquarters and the Region were added to the authoring team in order to broaden and strengthen its capability, particularly for dealing with policy as well as technical aspects. The Headquarters liaison team was also strengthened and the importance of vertical review (by policy and management levels) as well as horizontal review was emphasized as an attempt to minimize the possibility of substantial rewriting at the final draft stage, as had occurred with the first submission.

In view of the shortness of time, the development of both the energy conservation paper and the technical paper proceeded simultaneously. After several review and revision cycles, a short (six-page) paper entitled "Energy Conservation from an Environmental Perspective" was approved by SMC on April 21 and presented to the Commission on May 19.

The technical paper required a much more intensive and broad-based Departmental effort with strict adherence to a tight schedule. Following receipt of section drafts and editing by the project leader, a first draft was completed on March 21 and given wide distribution throughout the Department through the liaison system. Based on comments and information inputs from the review cycle, a second draft was distributed on April 6 for review and the resulting feedback incorporated into a third draft. In the meantime, the second draft was given close scrutiny by the Science Advisor and the Deputy Minister. In view of the policy implications of the draft document and its length, an intensive rewriting effort by the Office of Science Advisor with the involvement of the project leader was instituted during the last week of April and the first week of May. One hundred copies of the finalized version were submitted to the Commission on May 12.

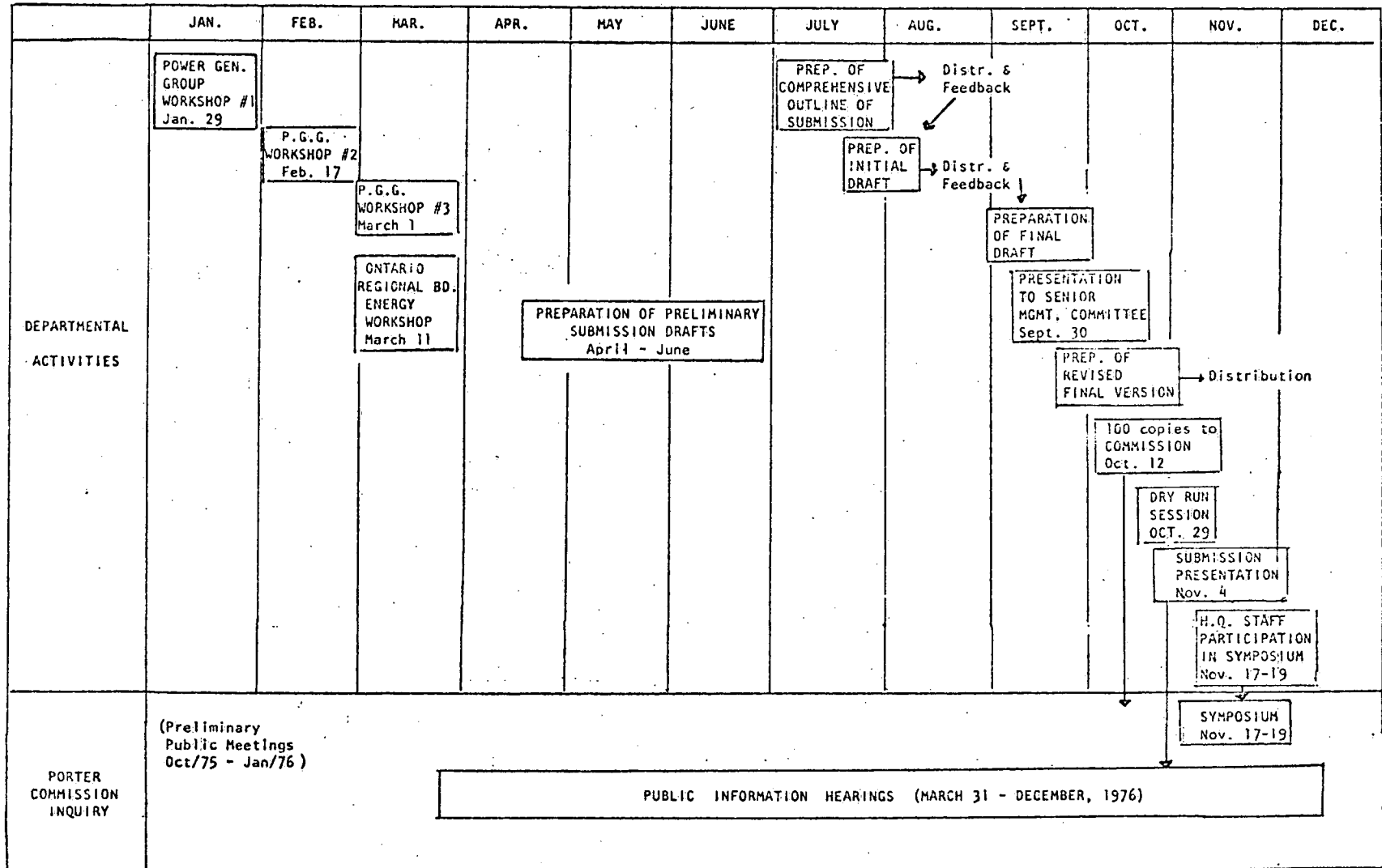
In preparation for formal presentation of the technical paper to the Commission, a dry run session for the approximately 20 Departmental participants was held on June 7. On June 8, sections from the submission paper pertaining to the hearing's topic on "conventional and alternate generation technology" were formally presented to the Commission, followed by intense questioning of the Departmental team by Ontario Hydro, the Commission, and others present in the audience. The section on nuclear power was presented on June 28 and sections pertaining to transmission and land use were presented on July 26. Still to be presented are sections on thermal plant cooling systems and climate. This will probably not take place before January of next year due to overruns in the Commission's hearings schedule.

No further submission papers to the Commission are planned. However, it is planned to assemble information which was developed for the inquiry, but could not be presented formally to the Commission, in the form of internal, individually authored papers. The documentation of this information base could have value for future Departmental activities in the energy area such as in planning internal programs, participating in federal energy policy exercises, and developing presentations for future public hearings.

PRELIMINARY ACTIVITIES and DEVELOPMENT of FIRST SUBMISSION

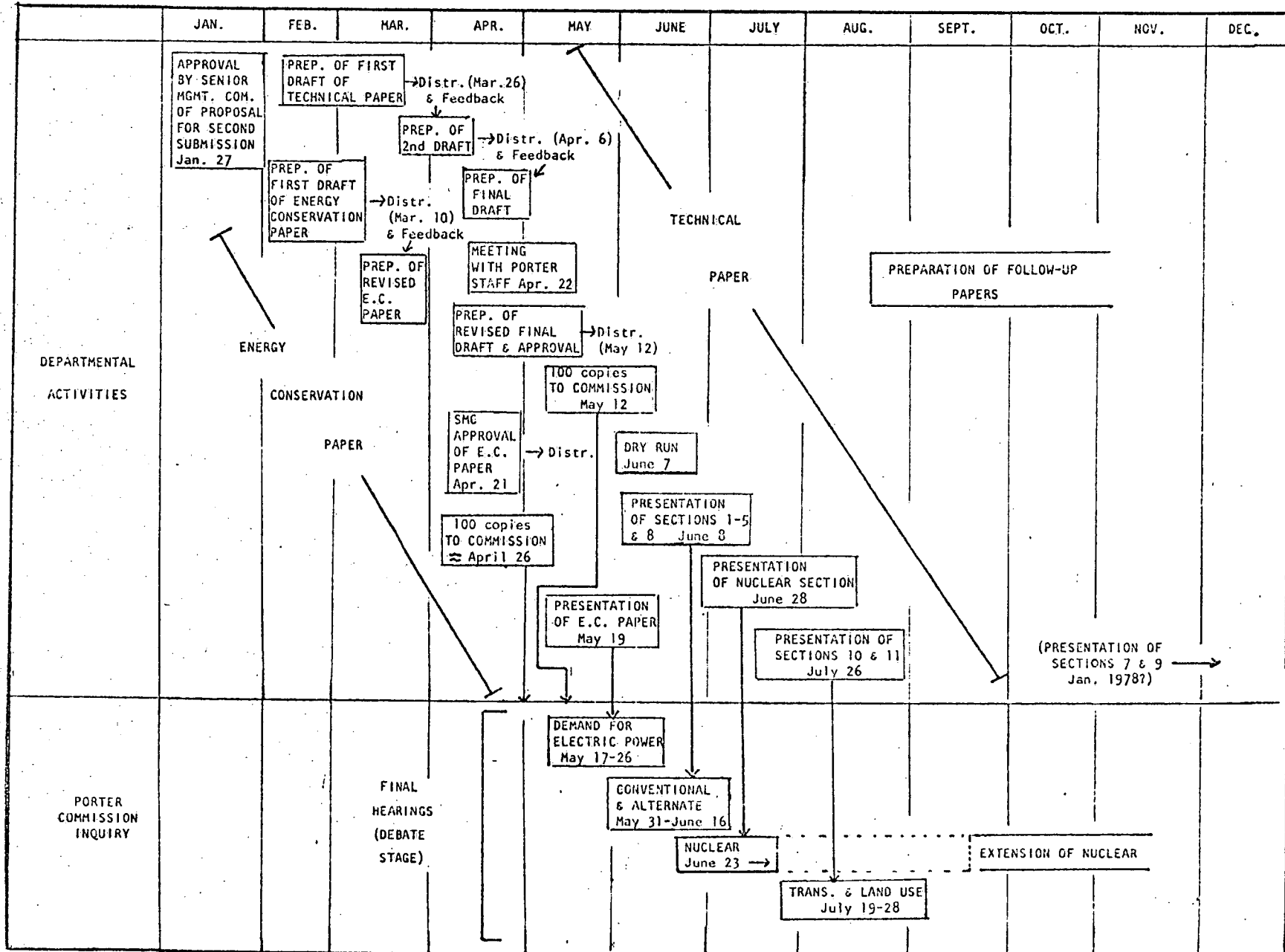
Flow Chart of Events and Activities

1977



APPENDIX B

DEVELOPMENT of PAPERS for SECOND SUBMISSION
Flow Chart of Events and Activities - 1977



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