

## THE AIR POLLUTION INFORMATION SYSTEM IN CANADA

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### ABSTRACT

The originating idea of the Technical Information Section within the Air Pollution Control Directorate was to provide a specialized, comprehensive and timely information service to a cross-Canada staff of more than 100 professionals employed in the air pollution field by the Department of Fisheries and the Environment. This service was also designed to respond to any other person in industry, educational institutions, consultants and other levels of government, who has a need to know in the area of technical air pollution information. In this paper, the methods of response in the context of a government organization to the more than 5000 enquiries received each year by the section, will be discussed. Both technological and logistical problems and their solutions will be reviewed.

### RESUME

L'idée de départ de la Section de l'Information Technique de la Direction du Contrôle de la Pollution de l'Air était de fournir un service d'information spécialisé, complet et adéquat à un personnel réparti dans tout le Canada et comprenant plus de 100 professionnels employés par le Ministère des Pêcheries et de l'Environnement, dans le domaine de la pollution atmosphérique. On a également conçu ce service pour répondre à tout autre individu (qu'il appartienne à l'industrie, à une institution d'enseignement, qu'il soit consultant ou provienne d'autres paliers de gouvernement) ayant besoin d'information technique sur la pollution de l'air. On discutera, dans cet exposé, des méthodes employées, dans le contexte d'un organisme gouvernemental, pour répondre à plus de 5000 demandes reçues chaque année par la Section. On examinera à la fois les problèmes technologiques et logistiques ainsi que leurs solutions.

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Air pollution is a pervasive aspect of modern life. Be it smell of a pulp and paper plant, or smog which causes the sun to disappear from view - we are all aware of it.

Air pollution is a problem common to all industrial nations; scientists and engineers worldwide are working on methods for its control and eventual elimination. As in all modern scientific and engineering fields, the volume of information on air pollution in books, reports, proceedings and serials is increasing. This information is published in many languages and is available from many sources.

The legal responsibility for controlling air pollution in Canada was not specifically mentioned in the British North America Act because air pollution was not then a recognized problem. The responsibility for control is therefore shared between the provinces and the Federal Government. Each provincial government has an organization devoted to pollution control and enacts pollution-control legislation. The Federal Government has responsibilities in certain areas. These are: 1) the regulation of the composition of fuels; 2) contraventions of any international environmental agreements; 3) control of pollutants defined as hazardous; 4) control of pollution from federal works, businesses and undertakings; and 5) under an agreement with Ministry of Transport, the control of emissions from new motor vehicles.

The Air Pollution Control Directorate (APCD) is the unit within the Department responsible for the national air pollution control program. Regulations are developed at headquarters and enforced in the regions through Federal-Provincial agreements. There was an Air Pollution Control Division in Canada's Department of National Health and Welfare before the creation, in 1970, of APCD in the then Department of the Environment, Environmental Protection Service (EPS). The Directorate is composed of three Branches: Air Pollution Programs, Abatement and Compliance, and Technology Development. The Air Pollution Programs Branch is responsible for the development and coordination of Canada's National Air Pollution Surveillance (NAPS) network as well as specific ambient-air monitoring and source-sampling surveys. The Abatement and Compliance Branch is primarily concerned with the development of regulations based on known technology for the capture and containment of pollutants from stationary and mobile sources. The Technology Development Branch has two primary responsibilities: one is to manage a cost-shared program with Canadian industry for the development and demonstration of new air pollution abatement technology and the other is to provide the technical and scientific services required by the Directorate. The Directorate acts as a coordinator to the provincial organizations by chairing the Federal-Provincial Committee on Air Pollution. Two of the most important cooperative programs undertaken by the Federal-Provincial Committee on Air Pollution are the development of National Air Quality Objectives and the

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maintenance of the NAPS Network.

The Air Pollution Information System (APIS) has a number of responsibilities in the provision of technical information to Canadians. This system was designed to remove the burden of information gathering from senior management and the scientific and engineering staff of the Directorate and transfer it to experienced information specialists. It must provide technical information to those involved in air pollution control programs in federal, provincial and municipal agencies. The system also provides technical information, on request, to industry, educational institutions and the private sector.

The System is operated in two Sections: Publications, and Technical Information. Publications are edited and produced by an editor who is Head of the Section and who is assisted by a publications clerk. The Head of the Technical Information Section is a chemist, who has clerical support.

The Publications Section has 200 reports in print and handles an average annual distribution of 35,000 copies. Its mailing list is constantly growing and now contains more than 800 addresses throughout the world. The two sections work closely together. Reference material required for the production of Directorate reports, such as literature searches, books, papers, and abstracts, are obtained for the authors by the Technical Information Section (TIS). These references are then kept and recorded by the TIS so that when the reports are distributed, the requests for copies of references from the bibliographies can easily be handled.

The TIS responds to over 5000 requests annually for technical information. Approximately 80 per cent of these requests come from Directorate staff. The others come from EPS regional staff, other government agencies, consulting engineers, and university professors and students. Any request for non-technical information is referred to the EPS Public Information Branch.

Requests range from those requiring a short, easy-to-find answer to those that can be answered only after days of intensive research. Some questions are quite straightforward such as obtaining a list of manufacturers of electrostatic precipitators in Canada. Others are more difficult to answer or cause puzzlement. One such query was "What work has been done on the effects of lead in lettuce?". One might ask why this question was directed to the TIS. The answer is that lead, which is indeed present on leaves of lettuce grown near highways, is contained in emissions from automobile exhausts.

Most sources of information for responding to requests are housed in the headquarters of the Directorate in Place Vincent Massey, Hull,

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Quebec. The TIS subscribes to, and holds back-runs of more than 60 journals dealing with air pollution and general engineering and science. It also has a collection of over 4000 books and reports. All book purchases in support of the APIS are made from the operating budgets of the personnel it serves. The TIS buys only those reference tools required to operate the information system. To reduce duplicate buying in the Directorate, all book and journal purchases are processed by the TIS. All books and reports bought from Directorate funds are accessioned and keyword coded. Because of staff limitations, the Section is unable to do full descriptive cataloguing; however a computerized KWIC (key-word-in-context) system is currently being developed. The books are filed in numerical order as received and more than half are always in circulation. The TIS is not a library but an information centre and as such does not have the staff available to maintain a standard circulation system. For circulation records, there is a simple, honour sign-out system which has been found to be effective. The APIS has a very low loss record. Although the users and not the TIS pay for the books, the users feel that the reports are part of a collection and not their own. For this reason, APCD staff members have not developed the habit of leaving with "their" books.

During a visit to the Air Pollution Technical Information Center (APTIC) of the United States Environmental Protection Agency (EPA) in North Carolina in 1973, the Director of the Technology Development Branch arranged for APCD to receive the APTIC report file. This file, which is on microfiche, now includes over 100,000 titles culled from 7000 sources annually. It is the most comprehensive source of air pollution information in the world. The Air Pollution Technical Information Center no longer exists in its original form; it now acts as an advisory agent to the contractors who compile and disseminate the file. Only 25 copies of the file were manufactured, one for each of the EPA libraries and one for APCD which is the only holder of this file, in its entirety, outside the United States and is continuing to receive the file updates on microfiche free-of-charge as part of the original 1973 agreement. This agreement preceded a much broader Environmental Protection Agency-Department of the Environment undertaking signed in 1977, which promotes a full exchange of information between the two agencies. As part of the 1973 agreement, the System provides, at cost, information in the file to anyone in Canada.

Access to the file is available through printed abstracts and through the Lockheed Dialog system. As a result of its national mandate, the APIS provides free searches of the file to all government agencies. Searches are done, at cost, for non-government personnel. Requests for these searches have come from all parts of Canada.

As well as answering requests, the TIS also operates a weekly in-house current awareness service for APCD senior management. On

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the basis of regularly updated profiles, the managers are able to receive the information they require without the necessity of reading all the extraneous material included in the sources consulted. The managers select the format in which they receive their weekly digest. One Director listens to his information package on a 15-minute audio tape. The section also maintains interest profiles for Directorate staff members and disseminates current information based on these profiles. This current awareness service takes approximately one day a week leaving four days to operate a national information service. Budget and man-year restraints limit the section to its present staff with no chance of additional resources, either human or financial.

Because the APIS is a part of the federal government, most of its staff's time is spent handling the requests of federal government scientists and engineers. Great importance is placed on fast, accurate and comprehensive responses to all information requests, regardless of origin. It is the goal of the service to initiate a response to all requests within 48 hours. A preliminary reply can often be made immediately from the APTIC file or from the APIS collection.

The TIS maintains a close relationship with the Library of the Department (which handles all interlibrary loans for the APIS) and cooperates with other government libraries to provide as complete an air pollution information service as possible. The section is on the Interlibrary Loan Location List at CISTI for the APTIC file.

The Section continually strives to improve the service it provides. Improvements must be made in the context of its government status. The Section is committed to maintaining its response system, and through the agreement with EPA, to providing all Canadians with access to the APTIC file. Plans include finishing the KWIC index which should be operational by the end of this year. During the last part of 1977, the first moves were made toward establishing a national centre for air pollution research records. The goal is to obtain information concerning all Canadian on-going air pollution research. Through multiple mailings a fairly complete selection of Canadians involved in this field has been contacted. So far, little information has been received. This could be attributed to several points. The wrong people may have been contacted or perhaps it is felt that the questions imply government interference. As the Canadian custodian of most of the available American and European information, it would be unfortunate if the excellent work being undertaken in Canada, largely under government funding, was not included in the National Air Pollution Information System. Eventually, it is hoped that the Section will become a node in the United Nations International Referral Service. This project is sufficiently important that every effort will be extended to reach solutions to the problems arising. With so much effort being extended in research and development

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throughout Canada, it is imperative that others in the field have access to new developments.

As the amount of information increases, it becomes more difficult for specialists and engineers to cope with or even be aware of developments in their own field. It is the aim of the Air Pollution Information System to reduce the amount of time required for information gathering for those involved with air pollution control and research by quickly and accurately collecting and disseminating the facts, figures, articles and books.

