

THE LEGISLATURE'S ROLE IN ONTARIO SCIENCE POLICY

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Responsibility for science policy is spread over several principal ministries and agencies in Ontario. The legislature does not periodically review provincial science policy through a designated standing committee. The last committee to examine overall provincial science and technology policy in Ontario was the Select Committee on Economic and Cultural Nationalism which made several recommendations in this area. In recent years the major science policy areas of interest to the legislature have been energy and environmental policy. From time to time standing committees have examined some of these policy areas. Select committees such as that on Ontario Hydro Affairs have dealt with specific science policy issues. This article describes the distribution of responsibility for science policy in the Ontario government. It gives an overview of the committees of the legislature and looks at the activities, composition and recommendations of several recent committees which have examined scientific and technical issues.

Science policy in Ontario is not the responsibility of a single ministry. Several ministries have some jurisdiction. Among them are: Agriculture and Food, Colleges and Universities, Energy, the Environment, Industry and Tourism, and Natural Resources.

The Ministry of Agriculture is responsible for the agricultural technical colleges and for the Agricultural and Horticultural Research Institutes. The Ministry of Colleges and Universities is responsible for science and research work conducted by post-secondary institutions.

The Ministry of Energy is responsible for Ontario Hydro's overall policy and funds many research and testing projects through its Conservation and Renewable Energy Group. The Ministry of the Environment has jurisdiction over environmental assessment, and resource management. Considerable analytical and research support work is conducted by the Ministry.

The Ontario Research Foundation which conducts industrial research work comes under the authority of the Ministry of Industry and Tourism. The Ontario Forest Research Centre where fast growing hybrid poplars were developed is under the jurisdiction of the Ministry of Natural Resources.

COMMITTEES OF THE LEGISLATURE

In the legislature, standing policy committees correspond to the provincial secretariats. These are: Resources Development, Social Development, and the Administration of Justice and General Government. Other standing committees include Procedural Affairs, Public Accounts, Statutory Instruments and Members' Services. None of these conducts reviews of provincial science policy. Ministry spending estimates are periodically reviewed by the standing committees which examines that ministry's policy. Generally, science policy *per se*, is not reviewed except on an *ad hoc* basis by standing committees. Select committees have been set up to examine specific issues in which a particular science policy may be reviewed.

A select committee in the early 1970s examined research and development policy as part of a broader study of the effects of foreign ownership on Ontario and Canada. In recent years the major issues of a scientific nature which have been of interest to the legislature have been environmental and energy ones.

The legislature's influence on environmental issues has been limited by the fact that projects can be

exempted from environmental assessment by cabinet. Among the major projects whose exemptions generated considerable controversy were the Darlington Nuclear Generating Station and the proposed liquid waste disposal site in South Cayuga.

The Standing Committee on Resources Development studied the liquid waste disposal facility proposed for South Cayuga. During its examination of the proposal most of the Committee members visited disposal facilities already operating in West Germany and Denmark. The Committee's deliberations were interrupted by the election call on February 2, 1981.

SELECT COMMITTEE ON ECONOMIC AND CULTURAL NATIONALISM

This Select Committee was formed in December 1971 and made its final report in December 1974. The Committee consisted of eleven members. Its chairman was Russell Rowe, of the Progressive Conservative Party. Two members of the Committee were appointed to cabinet during the Committee's deliberations and did not sign or dissent from the final report. The Committee staff consisted of two legal counsel, a research director and an economic consultant in addition to the clerk.

During its deliberations the Committee held hearings in seven cities in Ontario. In addition, members visited New York City, Quebec City, Belgium, France, Germany, Sweden, Switzerland and the United Kingdom. The Committee also commissioned ten studies some of which dealt with science policy issues. During its hearings the Committee heard from civil servants, academics, politicians, business executives, industry and labour representatives and independent public interest groups.

The final report of the Committee contained a chapter on the impact of foreign ownership on research and development, technology and innovation in Canada. It examined the high degree of Canadian reliance on imported technology and government policy which has tended to encourage this. The advantages and costs of importing technology, and the impact it has had on education, research and development, job opportunities, competition, exports, management and marketing in Canada and Ontario were discussed.

The Committee isolated four broad science and technology policy options: importation of technology, development of indigenous technology, seeking wider participation in the technological activities of multinationals or a combination of these policies. The Select Committee's main recommendation with regard to science policy was that the Ministry of Industry and

Tourism should establish an agency responsible for research, development, design, and technology. The agency would develop, implement and co-ordinate Ontario participation in national science policy. Furthermore, it would formulate and sponsor appropriate revisions in science policy. In consultation with other government bodies the proposed agency would establish technology assessment standards.

The proposed agency would also systematically identify technological areas in which Ontario should concentrate research and development efforts. The areas recommended by the Committee were: environmental protection, resource conservation and safety technologies. In addition, those technologies likely to promote job satisfaction, product durability, new domestic industries and exports should be encouraged. Special attention would be given to important sectors which have significant levels of foreign ownership, little domestic research and development at present and where the possibility of Canadian participation exists. The proposed agency would undertake, moreover, a review of the system of funding technological development in Canada and the return from this funding.

Several other major recommendations were made. Among these was the proposal that the federal and provincial governments should review the terms and restrictions under which technology is currently imported. In the Committee's view a tax treatment of technological content should differentiate between imported and Canadian technology. Technological content would include management and marketing expenditures associated with product or technological development. Imported technological content would be deducted for income tax purposes at a rate of two-thirds of expenditures while for Canadian technological content four-thirds of expenditures would be deductible.

The Committee further recommended that Canadian patent, trademark and other legislation be reviewed and replaced by some more supportive of technological development in Canada. Government funding, purchasing and technology policies should attempt to increase the level of technological development in Canada and to ensure as much as possible that technologies developed in Canada are exploited and applied here.

The Committee also recommended that the Ministry of Industry and Tourism negotiate with multinational enterprises and other governments for wider Canadian participation in technological developments with the results periodically reviewed. To date none of the Committee's recommendations with regard to science policy have been adopted.

SELECT COMMITTEE INVESTIGATING ONTARIO HYDRO 1975-76

The Select Committee on Ontario Hydro Affairs has examined several science issues in some depth during its hearings. A Select Committee investigating Ontario Hydro was originally established on October 30, 1975 after the Ontario Energy Board had recommended that Ontario Hydro be granted a 26.7 percent increase in bulk power rates for 1976. The Committee's terms of reference were to examine this proposed increase in light of the federal government's anti-inflation program and Ontario Hydro's obligation to provide power at cost.

The Committee consisted of 12 members. Under the minority Progressive Conservative government the composition of the Committee was five Progressive Conservatives, three New Democrats, three Liberals and a New Democrat chairman, Donald C. MacDonald. Committee staff consisted of a counsel and two consultants in addition to the committee clerk. Hearings were held in November and early December of 1975 with the Committee tabling an interim report in the legislature on December 12, 1975. Further hearings were held from January to June 1976 with the final report tabled in June 1976. Witnesses appearing before the Committee represented Ontario Hydro, government, and to a lesser extent industry, universities, consultants, and environmentalists.

The Committee's main recommendations were to Ontario Hydro and the provincial government to increase conservation efforts and to take other steps to reduce electrical generation capacity requirements below the levels forecast. In addition, the Committee recommended that Ontario Hydro's nuclear commitment should be examined by a Select Committee and that Ontario Hydro should report to a Select Committee of the legislature on a periodic basis with respect to its new system expansion plan. The Committee further recommended that Ontario Hydro should report on how it was proceeding with the implementation of the Committee's recommendations beginning in the spring of 1977.

SELECT COMMITTEE ON ONTARIO HYDRO AFFAIRS 1977-81

On November 24, 1977 a Select Committee on Ontario Hydro Affairs was established to inquire into the cost of construction of the two heavy water plants being built by Ontario Hydro at the Bruce Nuclear Power Development. Moreover, it was to review the implementation of

the recommendations of the previous Select Committee and Ontario Hydro's nuclear commitment.

The new Select Committee consisted of 14 members: six Progressive Conservatives, four Liberals and four New Democrats. Donald MacDonald was appointed chairman. The energy critics for the two opposition parties and the parliamentary assistant to the Ministry of Energy were among the members appointed to the Committee. Four other members had sat on the previous Select Committee. Staff from the previous Committee were retained to make use of the expertise and knowledge they had gained.

The Committee began hearings in January 1978 by examining proposed long-term uranium contracts between Ontario Hydro and Denison Mines and Rio Algom/Preston Mines at the request of Premier William Davis. On February 23 the Committee tabled minority reports by each of the parties, none of which was able to elicit majority support of the Committee.

Next, the Committee examined the construction costs of the Bruce Heavy Water Plant. Public hearings were held for 23 days in July, August and September of 1978. The Committee also toured the plant site and held a public meeting there. The Committee reported to the legislature on this in October 1978. They recommended that Ontario Hydro be required to provide the government with a semi-annual summary of the costs of each major capital project, both under construction and proposed. The summary was to be referred to a legislative committee for review. Specifically the Committee recommended that only half of Bruce Heavy Water Plant D would be needed. The other half should be mothballed.

In January, February and March, 1979 the Committee held 29 days of public hearings on the need for electrical capacity in Ontario. The main recommendation of the Committee was that Ontario Hydro's load growth forecast should be reduced to the two to three percent per annum range. Planning on this basis would delay the need for the Darlington station units by eight to fourteen years. No further stations would be needed until the next century. The six Progressive Conservative members dissented; they felt a broader range of two or four percent should be used because of uncertainty, and that a Darlington delay should not be recommended.

From April to October 1979 the Committee held hearings on the safety of nuclear reactors. An interim report on reactor safety was tabled in December 1979 with a final report tabled in June 1980 following further hearings in February. During its deliberations the Committee toured the Nuclear Power Demonstration

facility in Rolphton and held a full day of public hearings in Deep River as well as 56 days of public hearings in Toronto.

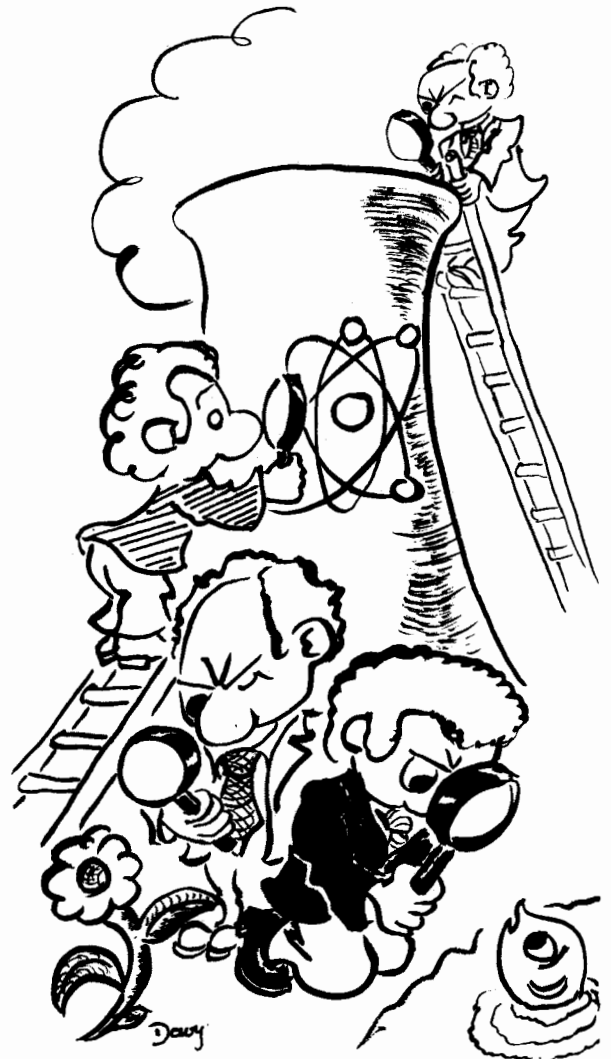
The Royal Commission on Electric Power Planning had held extensive public hearings on the nuclear safety question and the Select Committee used the Royal Commission's interim report on nuclear power as a background document. However, the Select Committee's hearings did much more to significantly increase the availability of public information with regard to reactor safety.

The Committee began to be seen by many as a forum which would decide on the safety of the CANDU reactor. The nuclear reactor safety issue is a very complex scientific and technical one. The Committee heard from Canadian and international experts on both sides of the issue. The Committee decided that it would need to have access to all Ontario Hydro documents. Those which were felt to be sensitive for commercial or safety reasons would only be made available to the steering committee or staff. Ontario Hydro agreed to make all documents requested by the Committee available and to give them to the Legislative Library. There would be controlled access to sensitive materials. That is, the public would be able to read the documents and make notes but would not be able to photocopy the material.

The key documents released by Ontario Hydro with unrestricted access were the station significant event reports. Among the documents with controlled access were the station safety reports, in-service reports, design manuals and operating manuals.

The main conclusion of the Committee was that the CANDU reactor is acceptably safe. The New Democratic Party members of the Committee dissented from this conclusion. The Committee made 24 recommendations. It recommended that Ontario Hydro continue to make public and update information provided to the Committee. It was also recommended that Ontario Hydro should review the present organization of its human resources, improve follow-up procedures for station significant event reports, and undertake a complete engineering review of the Nuclear Power Demonstration facility at Rolphton. The establishment of an independent council to study radiation was also recommended.

The undertaking of a "Reactor Safety Study" for the CANDU reactor by the Atomic Energy Control Board (AECB), the federal nuclear regulatory agency, was recommended although the Progressive Conservative members dissented from this option. It



was also recommended that the Board change several of its procedures particularly in specifying and strengthening its relationship with Ontario Hydro. Licensing requirements specifically should be more detailed and comprehensive and have stricter deadlines.

The Select Committee held hearings on the management of nuclear fuel waste in October 1978 and from January to March 1980. The final report on this was tabled in June, 1980. During its deliberations the Committee toured the Whiteshell Nuclear Establishment in Pinawa, Manitoba and the research drilling site at Atikokan. The Committee held one day of public hearings in Thunder Bay and 26 days of hearings in Toronto. The report made recommendations with regard to the transportation of radioactive spent fuel, increasing research work, and establishing a joint federal-provincial nuclear fuel waste management agency. It also recommended steps to clarify and

improve the regulatory process including ensuring meaningful public involvement by those in affected communities.

Later in 1980 the Select Committee held hearings on the mining, milling and refining of uranium in Ontario. During its deliberations the Committee spent three days at Elliot Lake and one day in Port Hope in addition to public hearings in Toronto.

The Committee recommended that the Atomic Energy Control Board should have jurisdictional responsibility for occupational health and safety and environmental matters with respect to uranium mines. Present provincial legislation in these areas should be adopted. Further recommendations were made in the areas of improving workers' skills and health and safety. It was recommended that the AECB require uranium mining companies to reduce the environmental impact of mine tailings by increased research and the adoption of new milling processes. Other recommendations called for the establishment of a public monitoring committee, resolution of the concerns of the Serpent River Indian Band, and adoption of the recommendations of the environmental assessment board. In addition some recommendations were made to increase the public accountability of the uranium refining and processing industry.

In January 1981 the Committee began hearings on public policy for the development of electrical energy.

However, the Committee was dissolved when a provincial election was called. In its just over three years of existence the Select Committee on Ontario Hydro Affairs has examined several issues of a very scientific and technical nature. Of the 14 members of the Committee, seven have been members throughout the Committee's deliberations. Four others have been members for at least three-quarters of the Committee's duration. This continuity of membership helped several members of the Committee gain some expertise in the science areas studied.

Conclusion

It appears that legislative committees in Ontario have been useful in examining specific aspects of science policy. One advantage which they have over other inquiries is independence from the scientific establishment and industry. The Committee on Economic and Cultural Nationalism examined overall provincial science policy and made several important recommendations. The Ontario Hydro Affairs committee made specific recommendations on complex science issues such as nuclear reactor safety, nuclear fuel waste management, and uranium mining, milling and refining. Committees, moreover, have played a useful role in increasing the availability of public information on these issues.