

Science and Technology

In early summer of 1973, the conclusions and recommendations of the task force were submitted to cabinet and on July 12, 1973, the then minister of state for science and technology, the Minister of the Environment Madam Sauvé, announced the national oceans policy, the objective of which is:

... to stimulate the development and most effective participation of Canadian industry consistent with the intent to develop and control in Canada the elements of industrial and technological capability essential to the exploitation of Canada's offshore resources.

In light of the increased marine activity relative to hydrocarbon and mineral development ventures in the Arctic, one of the most essential elements of the oceans policy relative to the exploitation of offshore resources is the requirement that Canada develop excellence in operating on and below ice-covered waters. In pursuit of this objective, the government set up an interdepartmental advisory committee to develop ways and means for achieving the requisite operating capabilities. Extensive consultation by the committee with industry and government experts has resulted in identification of a series of ice excellence R&D program requirements which, it is anticipated, will be considered by cabinet in the near future.

In the meantime, various scientific activities which are not explicitly part of a major co-ordinated ice excellence program have been continuing in support of ice-covered waters' operating capabilities. While these projects are too many and varied to be described in great detail at this time, a few examples would be useful.

The atmospheric environment service of the Department of the Environment, for instance, has been experimenting, in co-operation with the Canada Centre for Remote Sensing, with satellite methods of ice reconnaissance and with a variety of instrumentation for airborne ice sensing. The Canadian hydrographic service has been carrying out research on navigation and positioning systems with emphasis being placed on problems of propagation of electromagnetic waves over ice-infested waters. Finally, the Department of Transport, which currently operates the second largest fleet of icebreakers in the world, is having design specifications and drawings prepared for an icebreaker capable of continuous progress through seven-foot ice.

The oceans policy stated that special emphasis should be given to national marine science and technology programs which support, among other things, the protection and management of the marine environment, the management of estuarine, coastal and near-shore zones, the development and management of ocean resources and improved capabilities to predict marine atmospheric and oceanic factors such as weather and sea state.

An excellent illustration of a program which simultaneously supports all the above elements and, in addition, relates to the development of Canadian ice excellence, is the Beaufort sea environmental study. Conducted as a joint undertaking by the government and the Arctic Petroleum Operators' Association, this concerted scientific program is aimed at establishing a sufficiently sound scientific undertaking of the Beaufort sea environment to allow safe oil and gas operations. The program constitutes a total environmental approach and includes detailed

scientific investigation of wildlife, fish, oceanographic and geological parameters, and the interactions between oil, ice, and sea water.

The government industry co-operation in the Beaufort sea project is relevant to one of the strongest concerns expressed in the oceans policy, the need to support the development of Canadian ocean industry. Canada is, in fact, developing a recognized expertise in certain areas of ocean industry, as illustrated, for example, by the emergence of Halifax shipyards as a major builder of oil drilling platforms and by the international success enjoyed by the *Pisces* and *Aquarius* mini-submarines.

In addition, the government is involving industry more heavily in meeting the government's scientific requirements through the "make or buy" program. As the government's scientific interests turn increasingly to ocean resource development, the benefits of these programs will be felt more heavily in the ocean industry sector. Moreover, in a particularly interesting departure which illustrates the magnitude of the government's concern for the development of ocean industry, about 40 acres have been reserved at the government's new Institute of Ocean Science at Patricia Bay, British Columbia, for private industry engaged in ocean related research and development.

Implementation of the oceans policy is an ongoing process that will continue to occupy the government into the indefinite future. The complexity and difficulty of the "Law of the Sea" negotiations is evidence of the importance of Canada having a clearly defined policy in this field.

Yet, Mr. Speaker, the opposition have the audacity to say that this government is not doing anything.

Hon. Alvin Hamilton (Qu'Appelle-Moose Mountain): Mr. Speaker, my remarks tonight on the need for some form of over-all direction on a scientific and technological policy for Canada are based on the knowledge that a great deal has been done by various governments in this country over many years. My quarrel with what has been done by the various institutions and organizations set up over the last 100 years to give some government leadership in these fields is with a philosophy that is widespread in those organizations.

Let me quote an example used by the parliamentary secretary who just read his speech to the House. He spoke about agriculture and said that the Department of Agriculture has maintained one of the largest forces of research personnel in the world on a per capita basis, and that the work done by this group is unparalleled in its quality.

But, Mr. Speaker, the information gained is not reaching the people who should have it—the farmers of this country. It is kept in the library in the building on Carling Avenue because of the theory that scientists should not be in the job of teaching others what they have found out. Apparently that is a job for somebody else. Until we can get ministers to stand up to this attitude of the scientists and have them produce this fundamental knowledge and turn it into applied science and technology, I think the cost of their research is wasted.