

*Supply*

installation of \$12.5 million. It is my understanding that the Annapolis tidal project has been discussed for several years, and I am glad to see today that we are in the process of ratifying, in the supplementary estimates before the House, part of the federal contribution to this project. The grant and contribution come under the item for energy research and technology development, and we are being asked to pass \$12.5 million of a total grant of up to \$25 million to the Tidal Power Corporation for a demonstration project for a low-head hydroelectric installation.

This power project at the Annapolis causeway is a hydro demonstration program initiated jointly by the federal government and the province of Nova Scotia. The Straflo turbine is a new design of a hydraulic turbine which has been awaiting since 1978 the opportunity for large scale demonstration. This hydraulic turbine has a potential for reducing considerably the capital cost of low and medium-head hydro plants in Canada, as well as improving the economics of tidal generation. At least it should provide some learning lessons on tidal power.

The federal government and the province of Nova Scotia reached an agreement to instal a demonstration project at an estimated cost of \$46 million at the Annapolis causeway. Energy benefits to Nova Scotia are estimated at \$17.5 million, and a federal grant of up to \$25 million is being offered.

The design concept of this unit has been developed by Escher-Syss in Switzerland, and so far it has not been demonstrated at a physical scale that would prove its suitability for the larger generating unit sizes which would be employed in major tidal development or in major river installations. The primary object of the demonstration is thus to obtain its validation of the design in larger sizes and to create the degree of confidence that would allow committing major projects of this design of unit.

The advantage of this design is expected to be substantial savings in the capital cost of civil engineering work required to install the unit in hydroelectric plants, in comparison with the more conventional turbine designs that are now available.

Nova Scotia is to be commended for providing the site for this demonstration and undertaking to make a capital contribution commensurate with the energy benefits that are expected, mainly through the displacement of oil fuel that would be used in the oil production of an equivalent amount of electricity. It should be noted that Nova Scotia takes a financial risk in putting up this capital and being responsible for the cost-management of the project in the unlikely event that the demonstration is unsuccessful.

I notice, Mr. Chairman, that this project is justified on a national basis, but I wonder whether or not the project is dependent. I have been told that this project will replace 85,000 barrels of oil a year out of today's Nova Scotia use of five million barrels of oil a year. I wonder if this benefit of displacement of oil use is dependent on whether the total project is a success. In other words, there may be other aspects of the project that might not be a success due to not being able to use that turbine, but I am wondering if the project will be a

success for Nova Scotia on the basis of benefits returned for the displacement of oil.

The other aspect of this funding by the federal government was that it would be given on the basis of an initial environmental assessment. Before the federal government would go along with this investment by the province and the federal government in the Tidal Power Corporation, the federal government approved the Martec assessment of environmental and other related issues involved in this project. My concern is that they gave formal approval, and since this project is in my riding, I can say that they gave the formal approval subject to four conditions which I would like to bring to the minister's attention. I should like to hear his comments on whether or not these conditions are being met by the Tidal Power Corporation. As I said, the formal approval of the project was given subject to these four conditions.

The first one was assurances that the Tidal Power Corporation will incorporate reasonable measures to limit the loss of presently productive agricultural land, including losses due to potential increased bank erosion. It is my understanding that in the month of April a survey was done on water levels.

My second question to the minister tonight is on whether we have the results of this water level survey. My understanding is that, due to the spring thaw conditions, perhaps we did not have the level of water necessary to give a full evaluation of the amount of water which would be in the basin necessary for the turbines to be fully operational. I wonder what is tied into this commitment given to the federal government from the Tidal Power Corporation, because the federal government is committing itself tonight to this money under an agreement which was signed in January during the election.

The second condition for giving formal approval to the funding of this project was to undertake, in concert with local and provincial authorities, to plan construction to minimize the strain on the local socioeconomic infrastructure. Again I should like to know whether or not the Tidal Power Corporation is following through on this.

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The third matter was to extend a planning role to the existing local farmers' committee to work with the corporation in the planning and running of the early water level tests.

This week I spoke with one farmer who went to a lot of trouble to tile his land. During the month of April his tiles were approximately one foot under water. I am wondering if anyone went to the farmer's land during April while the testing was going on. I would like to know if the Tidal Power Corporation is following through on liaising with the farmers. I think there are about 250 marsh owners in that area.

The last request was to ensure that all reasonable steps were taken with respect to the fish ways. If the Minister of Fisheries and Oceans were here, I am sure he would realize that when one puts a tide gate or blocks any entry way, one must provide a passage way for the fish to go through. According to the concerns of the Department of Fisheries, too many fish may be caught in the turbine. The fishway should be attractive enough