2. International Collaboration

A major emphasis must be placed on international collaboration in order to train Canadians on the world's leading facilities. In this way Canada can get access to forefront technology on fusion energy at minimum cost. These international arrangements need to include:

a) a planned program of seconding scientific and engineering personnel to participate in major projects (such as Tokamak Fusion Test Reactor (TFTR), Joint European Tokamak (JET), Tritium Systems Test Assembly (TSTA), etc.). This program needs to rapidly build up to 20 people annually. Currently there are 2 Canadians on loan for one year under such arrangements. In fact, although Canada is a party to an international agreement with the International Energy Agency on the Technology Torus Project (TEXTOR), we have failed to meet our commitments with one person assigned in spite of having committed to 2 — 3 annually and in spite of several capable Canadian scientists willing to participate,

b) formal agreements for bilateral exchange involving the major focal centres of the Canadian program and appropriate foreign centres, such as:

the USA Laser Facility at Rochester,
the Princeton Plasma Physics Laboratory, etc.,

c) a Canadian expression of interest to both the IAEA and the United States to be considered as a site for INTOR and an implementation of the necessary studies to determine the benefits (and hence possible price to pay) of such a site to this country and the steps necessary in order to be a serious contender. The INTOR project offers Canada an opportunity for a technological presence on an international scale as well as a role in devising the regulations which will apply to future fusion power plants. If international events should indicate a possible delay in the INTOR program, Canada should explore with the United States whether there is a role Canada could play in the American Engineering Test Facility (ETF).

It must be borne in mind that the program of international collaboration can only be credible and effective if the development of national capability is initiated simultaneously. If the scientists and engineers who are posted to foreign laboratories do not have a specific program to return to, it is highly likely that they will not return.

3. Training of Manpower

In order to provide the manpower required for the Canadian program, it is necessary that:

a) the financial support provided by NSERC to the universities for fusion related projects be enhanced, and