Research Activities:

1) **System Survivability**: many advocates of SDI, including Edward Teller, question whether space-based systems can be made survivable. The System Survivability Project will work on:
   a) Soviet Threat definition;
   b) survivability architectures;
   c) satellite hardening;
   d) passive and active countermeasures, including 'shoot-back' capabilities.

2) **Space-based Power Generation**: the primary focus will be on nuclear reactors, although chemical and magneto-hydrodynamic technologies will also be pursued. Power level requirements range from a few kilowatts for passive infrared sensors to tens or hundreds of Megawatts for particle beam weapons.

3) **Space Logistics**: this project could include the development of a heavy-lift launch vehicle for placing platforms of over one hundred thousand kilograms into near-earth orbit. SDI may also require the capability to service a variety of space-based 'assets', and to transfer satellites from one orbit to another, including a shift from low orbit to high orbit.

SDI Technologies of Interest to Canada

There are specific aspects of SDI which would be of particular interest to Canada. Should Canada elect to participate in the deployment programme, there are several ABM components which could be deployed within Canadian territory. There are other ABM components with technical characteristics such that basing in Canada might be required in order to enhance the defence of the United States. In addition, there are several types of space-based sensor technologies which might affect Canada's role in North American air defence.

Since SDI is in a state of rapid flux, this is merely a "snapshot" of the possibilities for deployment on Canadian territory. It is meant as a starting point for the policy debate which is sure to develop as the SDI programme unfolds: