APPENDIX II

The Technology of SDI
Excerpted and condensed from
"The Technology of the Strategic Defence Initiative"

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US President Reagan's National Security Study Directive (NSSD) 6-83, signed 18 April 1983, invited two study groups to identify the technological requirements and strategic implications of a defence system which would, in the President's words, "render nuclear weapons impotent and obsolete."

The Fletcher Panel

The first study group, the Defence Technologies Study Team (known as the *Fletcher Panel* after its head, James Fletcher, former administrator of NASA), examined the technological implications of such a defence system. The Fletcher Panel recommended the development of a *layered defence* which would attempt to intercept missiles and their warheads at all four stages of the ballistic trajectory.

The four phases of the ballistic missile trajectory are:

1) *Boost Phase* — The initial stage, just after launch, during which the missile's rocket motors are firing; for an ICBM, this phase lasts 3-5 minutes, and the missile reaches an altitude of about 200 kilometres before powered flight ends.
2) *Post-Boost Phase* — The second stage; the booster rockets have ceased firing and have fallen away, the "bus" continues travelling outside the atmosphere and begins to release the missile's warheads; this phase lasts 8 to 10 minutes.
3) *Mid-Course Phase* — The third and longest phase of trajectory; the missile's warheads have all been released and are travelling independently through space; this phase lasts 20 to 25 minutes.
4) *Terminal Phase* — In this final stage the warheads, housed in "re-entry vehicles (RVs), begin to re-enter the atmosphere at an altitude of about 100 kilometres; this phase lasts only about 30-100 seconds.