2.2 Space-to-Space Weapons Situation (Continued)

(d) Launch smaller rockets with warheads, or with an intercept and collision capability

(e) Launch electromagnetic or particle beams

(f) Jam and spoof command, communications and sensors on a satellite.

Depending on how it achieves its objectives, an ASAT weapon can be classed as a close range weapon or a stand-off weapon. The stand-off weapons are further subdivided into weapons that are destructive and weapons that cause temporary disorientation or improper functioning of the satellite without experiencing destructive effects in the long term. The various classifications are set out in Table 2-5.

From information available in the current unclassified literature, the trend and the outlook in weapons technology is the eventual use of beam weapons. Launch and intercept weapons using physical impact or explosive warheads are the first generation of ASAT weapons. Lasers in space would be the second. The X-ray laser is included on the list of potential lasers, although its deployment is a special case because of the present ban on nuclear explosives in space. Particle beam weapons are likely to be the third generation of ASAT weapons, with a capability to attack targets on the earth from space. Certain classes of lasers may also have wavelengths suitable for penetrating the earth's atmosphere from space. Spacebased weapons for ballistic missile defense would be (more) complex derivatives of the second and third generations of antisatellite beam weapons.

A reading of the unclassified literature of the past three to five years leaves little doubt that both the USSR and the US have well advanced conceptual options for protecting their space assets from space. The current generation of ASAT weapons using the launch, seek, maneuver and kill sequence is at least partially in place now and could, by the end of the decade, be in full deployment and readiness. As has already been mentioned, Paxsat has no role in the scenario of these first generation weapons.