

K54(T74); the Peaceful Nuclear Explosions Treaty (see abstract C52(T76)); and the SALT II Treaty (see abstract J79(T79)). The technical collection systems are also relevant to the proposals for a nuclear freeze, a comprehensive test ban, and a treaty banning or limiting anti-satellite (ASAT) weapons.

Imaging/Photographic Reconnaissance:

Imaging satellites can be used to identify mobile and fixed ICBM launchers, submarine ballistic missile launchers and aircraft, to identify modifications in length, diameter or volume of these systems, and to detect activity at test sites or production facilities. Provisions of the LTBT, the ABM Treaty and the SALT II Treaty can all be directly monitored by imaging satellites.

The American Big Bird satellite (KH-9) was thought to possess both close-look and area surveillance cameras in addition to infra-red and multispectral scanners, but the most recent reports describe it as purely an area surveillance satellite. The oldest US imaging satellite presently in operation, the KH-8, possesses the greatest resolution capability. Table 10-1(p.174) displays the resolution required for detection and interpretation tasks.

The new KH-11 satellites transmit pictures in real-time and have a longer life than the Big Bird satellites. Even though the KH-11 has inferior resolution powers than close-look satellites, it will replace these satellites and the Big Bird systems. Press reports suggest that the KH-11 discovered that the USSR was constructing a new super-submarine and a new mini-aircraft carrier. The KH-11 also disproved reports of a Soviet chemical weapons facility by showing that it was in fact a reserve arms storage facility. Currently, work is proceeding on the KH-12, a follow-on satellite to the KH-11 with resolution powers equal to those of the present close-look satellite. An imaging radar satellite which can penetrate cloud cover is also planned.

Aircraft reconnaissance systems supplement satellite coverage and, unlike satellites, can be dispatched quickly to particular areas. The SR-71 is a plane that can film 60,000 square miles in one hour. It is equipped with a radar detector and electronic countermeasures. Its three dimensional filming equipment can produce resolution sufficient to locate a mailbox on a country road. It is reportedly also fitted with a synthetic-aperture radar for high altitude night imaging. An SR-71 photographed the entire first Chinese nuclear test. The U-2R (the present version of the U-2) is also used for reconnaissance purposes, but has largely been supplanted by the SR-71.

Signals Intelligence:

Signals intelligence (SIGINT) includes communications intelligence (COMINT) and electronic intelligence (ELINT). Subcategories of ELINT include radar intelligence (RADINT), telemetry intelligence (TELINT) and foreign instrumentation signals intelligence (FISINT). Signals intelligence is used to monitor Soviet compliance with the ABM and SALT II treaties.