

Proposal Abstract J131(A83)

1. Arms Control Problem:

- Nuclear weapons - research and development
- missile tests
 - ballistic missiles
 - cruise missiles
 - manned aircraft
 - comprehensive test ban
 - fissionable material "cutoff"

2. Verification Type:

- (a) Remote sensors - satellite
 - radar
- (b) On-site inspection - selective
 - IAEA safeguards
- (c) Short-range sensors
- (d) Seismic sensors - extra-border stations

3. Source:

Stares, Paul. "Can a Nuclear Freeze be Verified?" In The Nuclear Freeze Debate: Arms Control Issues for the 1980s, pp. 149-166. Edited by Paul M. Cole and William J. Taylor. Boulder, Colorado: Westview Press, 1983.

4. Summary:

The author argues that a "substantial part" of a freeze on the testing, production and further deployment of nuclear warheads, missiles, and other delivery systems could be verified by national technical means. In fact, the United States has the capability "perhaps enough to verify all of it to a 'satisfactory' level" (p. 153). A table produced by the Federation of American Scientists (p. 154) estimates high-moderate to high levels of confidence for monitoring tasks of a nuclear freeze with existing intelligence systems.

Deployment could be monitored by satellites such as the "Big Bird", KH-11 and close-look satellites operated by the CIA and the Air Force. Air and sea-based systems could supplement surveillance. These systems have difficulty, however, identifying dual-capable systems, multiple warheads on a single system and the range of existing weapons nor can they detect covert stockpiling of nuclear, capable systems and nuclear warheads. 'Functionally related observable differences' (FRODs) used in the SALT II agreement may alleviate the problem of identifying ambiguous weapons and differentiating between actual and potentially convertible nuclear systems. 'Externally observable design features' (EODFs) which are not necessarily related to the military function of the weapon system could also facilitate verification of a freeze.