

J117(A79)

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Proposal Abstract J117(A79)

1. Arms Control Problem:

Nuclear weapons - mobile ballistic missiles

2. Verification Type:

- (a) Remote sensors - satellites
- (b) On-site inspection - selective
- (c) Short-range sensors - monitoring devices

3. Source:

Meyer, Stephen M. "Verification and the ICBM Shell-Game". International Security 4, no. 2 (Fall 1979): 40-68.

See also: - "MAPS for the MX Missile". Bulletin of the Atomic Scientists (June 1979): 26-29.

4. Summary:

The focus of these articles is on the verification difficulties raised by deployment of mobile land-based missiles in a Multiple Protective Structure (MPS) basing scheme. The objective of such a basing system is to increase the number of points which an adversary must target by constructing numerous extra missile silos or shelters ("aim points"), all of which could house ICBMs but only a few of which actually would. The key to the success of such a system is that the opponent be unaware of which shelters house the missiles at any particular time, forcing him to target all of them.

For the purposes of his examination, Meyer uses the following hypothetical case: an MPS system of 250 squadrons, each squadron having 20 protective structures, one ICBM in each canister launcher, one transporter emplacer vehicle, 19 simulator packages and a service-support area. Each squadron would be located in an area of 20-60 square miles. According to the author, a different method of multiple basing such as a trench shuttle system will face verification problems similar to those of the above. For his analysis Meyer assumes that the USSR will follow the lead of the US in developing such an MPS system.

Using this case the author examines four basic approaches to verifying the number of ICBMs in a MPS configuration. The first method is monitoring the production of the special canister launcher to ensure that a significant number of extra launchers are not produced. Meyer concludes that such monitoring would require continuous observation which rules out non-stationary satellites. Geosynchronous satellites do not have the necessary resolution so they must be ruled out also. He suggests that on-site system (black-box technology and human visits) at production choke-points might be one way of verifying production, however this does not eliminate the possibility that undeclared production facilities could be built. He