

(4) Shipboard sensors: These provide detailed information about the reentry vehicles, its manoeuvrability and the missile's accuracy.

Greenwood continues by assessing the utility of these systems for verifying restrictions on qualitative improvements in ballistic missiles. He suggests, first, that to discourage development of new missile systems incorporating improvements in accuracy or reentry vehicle design, an overall limit could be imposed on the number of tests in a given period of time. The rationale for this is that if the upper limit on the number of tests were small enough, new systems could not be developed. Verifying of such a ban would be easier if the agreement included "a prescription that all long-range missiles be tested along designated flight paths and or only at pre-announced times" (p. 20). However, such a prescription is not absolutely necessary for a limitation on the absolute numbers of tests. It would be a more important element for the less restrictive limitations on qualitative improvements discussed below. Existing American technical capabilities such as line-of-sight radar, OTH radar and early warning satellites "would permit, with a high degree of confidence verification of an agreement limiting the number of missile tests". (p.20). But could the USSR circumvent the aim behind a numerical limitation on tests by foregoing maintenance testing of existing missiles and concentrating only on testing of new technology? To answer this Greenwood examines American capabilities to monitor qualitative improvements during missile tests. He concludes that "with current capabilities, hardware different from that which had already been tested could probably be recognized as such" (p. 21). The introduction of new boosters could be verified with high confidence as could any appreciable change in the structure, size or weight of the reentry vehicle.

Less restrictive limitations than the above might also be considered. A ban on terminal manoeuvring and terminal guidance of reentry vehicles could probably be verified by existing technology. Restrictions on improvements in accuracy would be more difficult to verify since information on this characteristic must derive from second order inference. "Such a restriction could, however, be imposed indirectly by prohibiting terminal manoeuvring and by imposing limits on the ballistic coefficient of reentry vehicles" (p. 22), both of which could be verified adequately. Even better would be a total prohibition on new reentry vehicles.

A complete ban on multiple warhead tests could be verified by shipboard and perhaps other sensors, as well as the new early warning satellite system, when it is operational. However, it is not possible to effectively distinguish the development of a MRV capability from the development of a MIRV capability, and consequently, any limitation based on this distinction cannot be verified.