

Meyer describes two sampling strategies: one involving a single pass by an observation satellite and the other involving a double pass. Using probability analysis, it is possible to calculate the minimum number of silos per squadron that would have to be inspected to achieve a specific probability of detecting a specific level of cheating.

A single pass inspection using large samples has technical and cost difficulties as well as the problem of reducing for a critical period the number of aim points at which an opponent must target his warheads. As Meyer points out in his Bulletin of the Atomic Scientists article, more verification is not necessarily better than less verification in a MPS environment. Efforts to achieve too high a level of verifiability will undermine the ability of the MPS to protect the land-based missiles.

More frequent but lower detection probability inspections could give a cumulative chance of detection equal to that for large samples. The party being inspected can also reduce the chance of disclosing MPS "cracking" information during the inspection by following certain procedures which Meyer describes.

In double pass inspections a preliminary examination is made of a small number of protective shelters in selected squadrons during the first pass. Based on the number of ICBMs observed, a second pass examines additional shelters in some of the same squadrons. Using this approach it is possible to reduce the total sample size. However, the techniques used for single pass inspection to reduce the possibility of disclosing information that would enable an adversary to crack the MPS system's deception, can not be applied for double pass verification.

For all these approaches to verifying an MPS system political questions arise over what constitutes adequate verification and over intrusiveness. In addition, any mobile launcher system involves the possibility that a mobile missile could be configured independent of a particular type of launch canister.

Meyer concludes that in terms of intrusiveness and the amount of adversary cooperation involved, verification in an MPS environment is without precedent in strategic arms control. The least demanding approach in this respect is the sampling one; yet even in this case NTMs are not useful unless active adversary cooperation can be guaranteed. In addition, there will be serious domestic political controversy over the verification system. Furthermore, the independent launcher concept inherent in an MPS system threatens to enhance break-out capabilities outside the MPS system. Finally, there is no reason to expect an opponent's system to be any more accommodating regarding verification than one's own.

In the Bulletin of the Atomic Scientists article, Meyer raises a few other points worth noting. He points to the difficulties raised by the possibility of false alarms due to technical limitations of NTMs. He also points to the necessity that a MPS system be linked to a verifiable ICBM limitations agreement if the system is to enhance the survivability of land-based ICBMs.