

3. increasingly complex and unmanageable command and control systems with reduced warning times demanding decisions and actions on a time scale exceeding human capabilities;
4. increasing reliance on automated decision-making systems leading to a greater likelihood of catastrophic error. Measures must be taken to halt this drift toward unparalleled catastrophe.

The statement goes on to assert that a number of steps can be taken to avert the danger, but cautions that "purely technological measures will not eliminate the risk."

There was insufficient time to forge a consensus concerning specific policy measures, and many felt that such an effort was inappropriate without the participation of officials responsible for policy implementation. However, a number of participants did make general recommendations which met with considerable agreement.

One recommendation (made most forcefully by Leonard and Sennott) was that both superpowers should eliminate or prevent the deployment of weapons systems which have the effect of increasing the load on warning systems. Deemed to be especially dangerous were short flight-time systems, such as Pershing II missiles and SLBMs, deployed in the opponent's coastal waters. ASAT systems also fall into this category, as their use would cripple each side's ability to resolve false alarms quickly.

A second recommendation, emphasized by Blair, was the need for command systems which could survive a nuclear exchange. The achievement of such a survivable command capability would remove the danger of decapitation, thus reducing the incentive to adopt a policy of launch-on-tactical-warning in time of crisis.

A third recommendation, strongly endorsed by both the strategists and computer scientists at the conference, warned against the increasing reliance on automated decision-making in nuclear command systems. Fallible and uncertain as human behaviour often is, the use of automated systems in the unpredictable circumstances of a severe crisis would inevitably result in a still greater likelihood of failure and more uncertainties, and thus a greater risk of unintentional war.

A fourth recommendation, made by Crissey, called for additional unclassified data on false alarms and warning system failures to be made available to researchers. Until recently, a considerable amount of data had been made available, but in the last two years or so there had been new attempts to restrict access to this information. This policy change severely inhibits a thorough scientific examination of the problem.

A final recommendation called for the creation of some institutional mechanism to engage in an ongoing study of the risk of war by accident. A