

It is clear that modernization of nuclear weapons is the central purpose of testing. There is a controversy as to whether checking the reliability of stockpiled weapons requires explosive testing, but even the proponents of such testing admit that a very small number of explosions would suffice. As regards other reasons, no combination of them would make up a compelling case for the continuation of nuclear detonations.

III. Why did negotiations for a nuclear test ban begin, and why did they fail?

The idea of stopping all nuclear test explosions grew out of the international concern about nuclear fall-out, especially after the major radiation accident which followed the 1 March 1954 US Bravo test in the Pacific. Thereafter, concerted anti-nuclear movements among scientists and the general public gathered momentum. In addition, in the late 1950s, a number of influential government officials in the USA and the USSR came to regard the test ban as a first step towards more comprehensive discussions on arms control between East and West. On the US side, an additional incentive may have been the belief that unlimited testing by both superpowers could, over time, decrease the strategic lead of the United States over the Soviet Union, primarily in the field of nuclear warhead sophistication. On the Soviet side, the search for the cessation of tests may have been motivated by an apprehension that further testing could widen the technological gap between the two powers to the benefit of the United States. Equally essential was the shared interest of the two powers in stopping or at least dampening the spread of nuclear weapons among nations; in the early days the prime targets of these policies were China, France and West Germany. There were thus both short-term and long-term considerations in negotiating a test ban. From the start, however, the negotiators encountered serious difficulties.

In 1958-62, during the first extended period of negotiation for a comprehensive test ban, verification was a particularly contentious issue. Despite continuous advances in the techniques of checking