

EXECUTIVE SUMMARY

This paper is an overview of a study which brought together more than two dozen specialists in various aspects of nuclear weapon testing. The overview draws heavily on the papers presented in the larger study, but the analysis and conclusions are those of the authors, and do not represent the views of all the contributors.

The paper begins with an analysis of the various reasons generally cited to explain the need for continued nuclear weapon testing. It concludes that force modernization through the design and development of new nuclear warheads is the central purpose of continued testing, although it is noted that tests to check the reliability of stockpiled weapons is a controversial issue. Even proponents of testing for this purpose, however, agree that a very small number of tests would suffice to ensure continued reliability.

An examination of the existing treaties limiting nuclear weapon testing — the 1963 Partial Test Ban Treaty (PTBT), the 1974 Threshold Test Ban Treaty (TTBT) limiting explosive yield to 150 kilotons, and the 1976 Peaceful Nuclear Explosions Treaty (PNET) — suggests that these treaties have not seriously restricted nuclear weapons development. However, the failure to ratify the last two has weakened confidence in the arms control process and has hindered negotiations for a comprehensive ban.

US complaints that the Soviet Union has violated the 150 kiloton limit have focussed attention on the verification of further limits on