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Based Challenges and Solutions"; "APPENDIX I References";
"APPENDIX J List of Acronyms"
"APPENDIX K Glossary of Key Terms from the 2010 CTBT NIE"

Sommario/riassunto

This report reviews and updates the 2002 National Research Council report, Technical Issues Related to the Comprehensive Nuclear Test Ban Treaty (CTBT). This report also assesses various topics, including: the plans to maintain the safety and reliability of the U.S. nuclear stockpile without nuclear-explosion testing; the U.S. capability to detect, locate, and identify nuclear explosions; commitments necessary to sustain the stockpile and the U.S. and international monitoring systems; and potential technical advances countries could achieve through evasive testing and unconstrained testing. Sustaining these technical capabilities will require action by the National Nuclear Security Administration, with the support of others, on a strong scientific and engineering base maintained through a continuing dynamic of experiments linked with analysis, a vigorous surveillance program, adequate ratio of performance margins to uncertainties. This report also emphasizes the use of modernized production facilities and a competent and capable workforce with a broad base of nuclear security expertise.
