

## PREFACE

This report is a summary and update of a study, delivered to Congress in July 1991, that examined methods to monitor Soviet<sup>1</sup> compliance with potential bilateral arms control limits on nuclear-armed sea-launched cruise missiles (SLCMs). Information in this report was last updated in November 1991<sup>2</sup>

The July 1991 report was completed before the attempted overthrow of Soviet President Gorbachev triggered a series of revolutionary events. The subsequent disintegration of the Soviet Union and the rapidly changing U.S. security relationship with the Soviet Union and its former Warsaw Pact allies challenged several longstanding tenets of U.S. arms control policy, including those regarding limitations of nuclear-armed SLCMs.

In an address to the Nation on September 27, 1991, President Bush announced a series of unilateral nuclear arms initiatives. Of particular interest for this paper was the President's directive to the Navy to withdraw all tactical nuclear weapons deployed on surface ships and submarines, including nuclear-armed SLCMs. On October 5, 1991, President Gorbachev announced a series of reciprocal unilateral arms limitations that included the removal of all nuclear SLCMs from Soviet surface ships and submarines.

OTA's study could not anticipate these events. Nevertheless, the study's analysis of the military utility of conventional and nuclear-armed SLCMs, options for SLCM arms control, and possible methods to monitor SLCMs are still relevant. For example, it provides context for evaluating President Bush's decision to withdraw all U.S. nuclear SLCMs from surface ships and submarines. In addition, the United States may wish in the future to limit SLCM production or deployment as part of a formal arms

agreement. Unilateral declarations do not have the force of international (treaty) law, nor do they provide for cooperative monitoring.

Unilateral arms reduction steps the United States might contemplate will be influenced by the degree to which the United States can be confident about the actions of potential adversaries and the consequences of undetected violations. For example, the importance of clandestine SLCM production or deployment, which the President has evidently judged relatively low, might increase should the United States and the former Soviet republics make reductions in their long-range strategic forces that greatly exceed those agreed to in the strategic arms reduction talks (START). OTA's study also analyzed the tradeoffs between monitoring confidence and monitoring complexity and intrusiveness. This issue lies at the center of all debates regarding SLCM limitations, whether accomplished by unilateral action or through arms control agreements.

Verification issues, central to previous treaty ratification debates, dominated bilateral talks about SLCM limits during START negotiations. Throughout the negotiations, the United States was steadfast in rejecting proposed limits on nuclear SLCMs because of the difficulty in finding an acceptable monitoring regime. As discussed below, monitoring SLCMs is a far more difficult task than monitoring long-range ballistic missiles or bombers.

Verification is, however, only one aspect of the debate over arms limits. In its earlier report, *Verification Technologies: Measures for Monitoring Compliance With the START Treaty*, OTA stated:

Scenarios for Soviet cheating need to be evaluated not only in terms of the technical feasibility of the potential violation, but also in terms of the probable risk, financial cost, and difficulty of the required deception; the nature of the military advantage to be

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<sup>1</sup>At the end of May 1992, all of the former Soviet republics possessing nuclear weapons had declared their intentions to abide by the arms control commitments made by the Soviet Union. In the interest of brevity (and of consistency with the full report written before the collapse of the Soviet Union), this summary will treat the issue of SLCMs as a bilateral one between the United States and the "Soviet Union." Most of the **monitoring** issues addressed here are not affected substantively by the disintegration of the Soviet Union into sovereign states

<sup>2</sup>OTA submitted this summary for security classification review prior to publication. This accounts for most of the delay between report completion and publication.