

Summary of the 1992 Final Report of the Federal Advisory Committee on Nuclear Fail-Safe and Risk Reduction

The final report has only been released in a redacted version. Large parts of the review are still classified, so this summary only provides insights into the unclassified findings and recommendations.

Geopolitical context

The context in which the U.S. Department of Defense published the Final Report of the Federal Advisory Committee on Nuclear Fail-Safe and Risk Reduction (FARR) in 1992 is fundamentally different to the situation today. The FARR states that there was a reduced risk of nuclear war between the United States and the Soviet Union. Furthermore, the threat of a massive surprise attack on the United States and its allies has virtually disappeared. The main threat the report identified was the risk of proliferation and increased unpredictability as the Cold War drew to a close and the world became less bipolar. Concurrently, the Presidential Nuclear Initiatives of 1991 and 1992 established a context conducive to further risk reduction measures.

Composition of the Committee on Nuclear Fail-Safe and Risk Reduction

The Committee on Nuclear Fail-Safe and Risk Reduction was chaired by Ambassador Jeane Kirkpatrick and assisted by three working groups on security, technology, and risk reduction. Work from five study groups also fed into the committee's process: Policy and Requirements; Weapon Systems Review; Nuclear Command and Control System (NCCS) Assessment; Remote Destruct Options; and Positive Control Devices. The independence of the work done by the committee, working groups, and study groups was ensured by accepting briefings on FARR issues from leading authorities outside government, red teaming, and accounting for dissenting views on the study groups' results.

Overview of key aspects the FARR explored

The Federal Advisory Committee was chartered by Secretary of Defense Richard B. Cheney. While most of the recommendations and findings in the initial FARR remain classified, the U.S. government has disclosed that the committee was mandated to explore the following key aspects:

- » The U.S. nuclear weapons command and control system's capability to meet the dual requirements of assurance against unauthorized use of nuclear weapons and assurance of timely, reliable execution when authorized (assure/assure-against)

- » Positive measures to enhance fail-safe, including an assessment of:
 - NCCS vulnerabilities and potential improvement
 - The desirability and feasibility of placing coded control devices on U.S. sea-based nuclear weapons
 - The desirability and feasibility of placing post-launch destruct devices on all U.S. nuclear weapons
- » Potential measures to reduce the risk of nuclear war occurring as a result of an accident, misinterpretation, miscalculation, terrorism, unexpected technological breakthrough, or deliberate act.

Specific recommendations in the FARR

3.1 Risk reduction measures

The FARR states that risk reduction measures should go beyond the traditional arms control agenda. Key risk reduction and fail-safe options identified in the unclassified FARR include:

- » Improved personnel reliability standards
- » Establishment of nuclear weapons incident multilateral consultation agreements
- » Transfer of selected nuclear weapons systems safety, security, and control technologies on a case-by-case-basis to reduce the risk of inadvertent or accidental nuclear detonation, etc.
- » Pursuit of new dialogues and initiatives with Russia and emerging powers to reduce proliferation and provide timely warning in the event of a launch
- » Establishment of multilateral crisis communications capabilities.

In addition, the FARR identified several potential measures aimed at risk reduction with Russia:¹

- » Establishment of government-to-government communications
- » Strengthening of the following initiatives, including:²
 - Joint measures to reduce proliferation, like intelligence sharing
 - Joint initiatives to provide timely launch warning
 - Overview of U.S. and Russian/Commonwealth of International States command structures
 - Lexicon of command-and-control terminology
 - Discussions on early deactivation of forces.

3.2 Fail-safe measures

With respect to fail-safe measures, the FARR highlights the introduction of coded control devices and post-launch destruct devices as two options ripe for improvement:

- » Post-launch destruct devices: The study group assessed options for the United States to introduce these devices on all intercontinental ballistic missiles, submarine-launched ballistic

¹ There is also a paragraph in the FARR that mentions potential risk reduction measures with China, but this section is entirely classified.

² At that time, the Department of Defense was already pursuing some of these initiatives as the FARR notes.

missiles, air-launched cruise missiles, submarine-launched cruise missiles, short-range attack missiles, and nuclear bombs.³ Five options emerged: passive, active enable, active destruct, bi-national and open source. Furthermore, the group considered acceptability of post-launch destruct devices as risk reduction.

- » Coded control devices: The technology working group considered the use of cryptographically coded electronic locking devices on all nuclear weapons systems at sea.

3.3 NCCS measures

The FARR explored measures that could improve oversight of NCCS. Recognizing the scope and complexity of the NCCS, the FARR notes that oversight structures are complex, too. A key concern of the committee was, therefore, to investigate whether the current system can respond effectively to a changing environment.

The report states that an additional review examined the Department of Defense's nuclear weapons safety and security policy and the adequacy of its implementation in the U.S. armed services and NATO.

Implementation of the FARR's recommendations

There is compelling evidence that the Department of Defense implemented the specific recommendations the FARR made regarding the addition of coded control devices onto U.S. ballistic missile submarines (SSBNs). Crucial documents such as the 1994 Nuclear Posture Review and the 1995 Department of Defense Annual Statement to Congress reference plans for adding these options. Further research in secondary sources indicates that the process of adding these capabilities onto U.S. SSBNs was completed in 1996 or 1997.

In contrast, there is a paucity of publicly available information on the review's specific recommendations regarding post-launch destruct capabilities for all nuclear weapons in the current and planned U.S. stockpile, as well as their potential implementation. Similarly, there is scarce information in the public domain regarding the recommendations of the FARR on the improvement of aspects of nuclear command, control, and communications systems other than the issue of coded control devices.

There is, however, at least one public statement indicating that the Department of Defense took steps to clarify various Emergency Action Message procedures. At least four of the risk reduction measures identified in the FARR were mentioned in a paper issued by the Office of the Secretary of Defense in support of President Bush's Presidential Nuclear Initiatives and related possible dialogue with the Soviets. However, that paper was written while the FARR was still in the research phase (November 1991), so it is unclear whether the discussions inside the FARR working groups or committee might have fed into the paper, or vice versa (or whether these recommendations were common sense).

³ The latter two were only considered later on in the process. Short-range missiles and bombs were not included in the initial task of the Committee.