



Chapter 9

International Nuclear Cooperation

9.1 Overview

As stated in the 2010 *Nuclear Posture Review*, the threat of global nuclear war has become remote but the risk of nuclear attack against the United States and our allies and partners has increased. Nuclear terrorism and nuclear proliferation are global problems requiring cooperation among the United States and international partners and allies. The United States engages cooperatively with North Atlantic Treaty Organization (NATO) allies, within the NATO nuclear structure, to coordinate operations associated with forward-deployed U.S. nuclear weapons that would be used in defense of NATO allies. Additionally, the United States works closely with certain allies to ensure the common use of best practices and to benefit from independent peer review. The United States participates in various Programs of Cooperation (i.e., legal frameworks for international information exchange) with a number of international partners, including the United Kingdom, France, and NATO.

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Within the United States, the *Atomic Energy Act* (AEA) governs the exchange of nuclear-related information. Sections 91c, 123, and 144 of the AEA describe the different types of exchanges in which the United States may legally engage. According to the AEA, all international information

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exchanges are predicated on the existence of an Agreement for Cooperation, such as a mutual defense agreement (MDA), with the individual nation or organization. For example, the MDA between the United States and the United Kingdom was originally signed in 1958.¹ This MDA serves as a bilateral treaty between the United States and United Kingdom and is renewed every ten years, most recently extending the agreement to December 31, 2024 (**Figure 9.1**).



Figure 9.1 UK Ambassador Sir Peter Westmacott and State Department Principal Deputy Assistant Secretary for Nuclear and Strategic Policy Ms. Anita E. Friedt, sign the 10-year update to the U.S.-UK MDA, July 22, 2014

Given the existence of a formal MDA, the AEA further stipulates that all exchanges conducted under the auspices of the agreement must be approved by the President of the United States. The mechanisms for authorizing specific international transmissions were called presidential determinations. However, in 1959 and 1961 Presidents Eisenhower and Kennedy, respectively, delegated this authority to the Secretary of Defense and the Chairman of the Atomic Energy Commission through Executive Orders (EO) 10841 and 10956. As a result of these orders, presidential determinations

¹ *The Agreement Between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the United States of America for Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes* is commonly called the Mutual Defense Agreement. The agreement was first signed on July 3, 1958.

became statutory determinations (SDs). EO 10956 stipulates that SDs under certain sections of the AEA must continue to be referred to the President for final approval.

Today, SDs are still the mechanism for authorizing specific information exchanges with foreign partners. SDs are decided jointly by the Secretaries of Defense and Energy. Each SD must explain the purpose of the international communication (i.e., why the information should be transmitted) and specify the exact nature of what is authorized for transmission. The SD must also delineate any restrictions of what is not transmissible because it is not authorized for communication. Most SDs relate to weapons design information, although increasingly SDs are also being developed and approved to share nuclear information to counter the threats of nuclear terrorism and nuclear proliferation.

9.2 U.S. Nuclear Cooperation with NATO

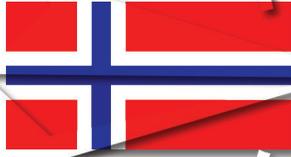
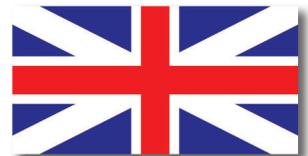
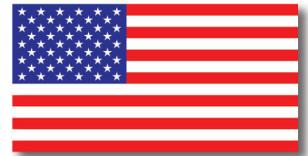
On April 4, 1949, the *North Atlantic Treaty* was signed in Washington by the founding members of NATO: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States. Article 5 of the Treaty guaranteed the mutual defense of its members. In December 1949, the first *Strategic Concept for the Defense of the North Atlantic Area* was published, which outlined different areas for cooperation among NATO member countries in the area of military doctrine and procedure, combined training exercises, and intelligence sharing.



The Nuclear Planning Group (NPG), established in 1967, provides a forum for NATO member nations to exchange information on nuclear forces and planning. At the ministerial level, the NPG is composed of the defense ministers of NATO nations that take part in the NATO Defense Planning Committee. The NPG serves as the formal Alliance consultative body on nuclear forces planning and employment and is the ultimate authority within NATO with regard to nuclear policy issues. NPG discussions cover a broad range of nuclear policy matters, including the safety, security, and survivability of nuclear weapons; communications and information systems; and deployment issues. The NPG also covers other issues of common concern such as nuclear arms control and nuclear proliferation.



*NATO
Nuclear Planning Group
Members*



The role of the NPG is to review the Alliance's nuclear policy in the light of the ever-changing security challenges of the international environment and to adapt it as necessary to address these challenges. It also provides a forum in which member countries can participate in the development of the Alliance's nuclear policy and in decisions on NATO's nuclear posture, regardless of whether or not they maintain nuclear weapons. Decisions within the NPG are made by consensus. Thus, the policies agreed upon by the NPG represent the common position of all participating countries.

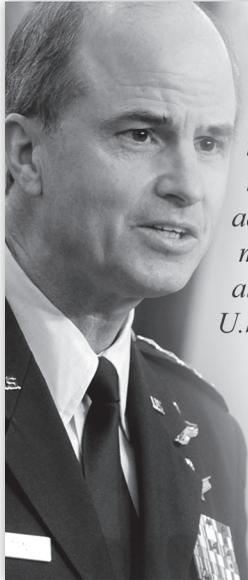
The senior advisory body to the NPG on nuclear policy and planning issues, and nuclear weapons safety, security, and survivability matters, is the High Level Group (HLG). The HLG is chaired by the United States and is composed of national policy makers and experts. The HLG meets approximately twice a year, or as necessary, to discuss aspects of NATO nuclear policy, planning and force posture, and matters concerning the safety, security, and survivability of nuclear weapons. The HLG relies on the technical work of the Joint Theater Surety Management Group (JTSMG) to maintain the highest standards in nuclear surety.

The JTSMG was established in August 1977 to seek active participation and consultation among the NATO Nuclear Program of Cooperation nations to ensure an effective theater nuclear surety program. The JTSMG serves as the focal point for the resolution of technical matters pertaining to nuclear surety. The group reports to the HLG vice chairman, who provides high-level attention and oversight to JTSMG activities. The JTSMG is co-chaired by representatives from U.S. European Command (USEUCOM) and Supreme Headquarters Allied Powers Europe (SHAPE). The JTSMG meets in working group session four times annually and in plenary session twice annually.

In the new *Strategic Concept for the Defense and Security of the Members of the North Atlantic Treaty Organization*, adopted by NATO Heads of State and Government in Lisbon in November 2010, NATO members affirmed that deterrence, based on an appropriate mix of nuclear and conventional capabilities, remains a core element of the overall NATO strategy. The members further affirmed that, as long as nuclear weapons exist, NATO will remain a nuclear alliance. The Strategic Concept has been periodically updated and published since 1949. Subsequently, NATO mandated the *Deterrence and Defence Posture Review* which reaffirmed nuclear weapons as a core component of NATO's overall capabilities. As a contributor to the strategic nuclear forces of the NATO alliance, U.S. nuclear cooperation with NATO will remain important into the future.

9.3 U.S.-UK International Program of Cooperation

The United States and the United Kingdom have worked closely on nuclear weapons issues since the 1940s. During the early days of World War II, the work of Otto Frisch and Rudolph Peierls in England identified the means by which the potential for an atomic



“In addition, in the area of strategic nuclear deterrence, the deterrence not only weighs on the mind of the potential adversary, but also on the minds of the leaders of our allies who depend on the U.S. nuclear umbrella, and just as importantly, the deterrent weighs on the minds of U.S. leadership as well.”

*General Kevin P. Chilton,
September 13, 2010*

explosion could be contained in a device small enough to be carried by an aircraft. This information was shared with the United States and ultimately resulted in the decision to pursue the Manhattan Project, thereby leading to the beginning of the nuclear age. For more information on the history of nuclear weapons, see *Chapter 2: Evolution of the Nuclear Deterrent – A History*.

Apart from a period of restriction from 1946 to 1958, under the *Atomic Energy Act of 1946* key

aspects of the U.S. and UK nuclear programs have been the subject of technical and information exchange at a level appropriate to the evolving strategic situation and the nations’ developing cooperation. Today the relationship between the United States and the United Kingdom is the strongest it has been for decades, as both nations face, together with NATO, 21st century security challenges and the common threats of nuclear terrorism and nuclear proliferation. At the strategic policy level, the United States and the United Kingdom share a common view. U.S. and UK contributions to NATO extended nuclear deterrence form a very visible, shared commitment to NATO’s security. To facilitate this cooperation, both nations maintain liaison officers assigned within their respective nuclear oversight organizations. The closeness of the relationship and the

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level of nuclear cooperation between the two sovereign nations should never be mistaken for an inability to act alone. The President of the United States is the only person who can authorize the use of U.S. nuclear weapons, while the prime minister of the United Kingdom is the sole individual able to authorize the launch of a UK Trident missile.

Under the U.S.-UK International Program of Cooperation, there are regular exchanges of information and experience at all levels. Thus, both countries are able to benefit from shared knowledge and experience as they work together to counter nuclear threats and independently advance the status of their nuclear weapons programs.

Since the MDA was first signed, the technical areas of collaboration have reflected the scientific, military, and political focal points of the times. Historically, the technical areas of information exchange were authorized by specific SDs on a case-by-case basis, taking into account the desired outcomes of the proposed collaboration and potential risks to national security of sharing such sensitive nuclear weapon information.



The intent of the SDs is to share only certain atomic (nuclear) information (e.g., Restricted Data, Formerly Restricted Data) deemed necessary for the furtherance of mutual objectives that would benefit both countries' nuclear deterrent programs. Collectively, the SDs make eligible most, but not all, atomic information for sharing with the United Kingdom.

Under the terms of the AEA, the DoD and the DOE are responsible for controlling the dissemination of U.S. atomic information. This information may not be disclosed to foreign nations or regional defense organizations unless it meets the criteria specified in applicable agreements for cooperation and SDs. Once the criteria have been met, there are a number of mechanisms for such exchanges, depending on the medium involved. These mechanisms include Management Arrangements, Administrative Arrangements, Joint Atomic Information Exchange Group (JAIEG), Joint Working Groups (JOWOGs), Exchanges of Information by Visit and Report (EIVRs), and Channels.

9.3.1 Management Arrangements

Management arrangements detail the means of supervisory oversight over the cooperation effort. The two management levels are known as Stocktake and Second Level, depicted in **Figure 9.2**. The Stocktake principals, which include the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)), the NNSA Administrator, and the UK Ministry of Defence’s Director General Security Policy, meet approximately every 18 months to take stock of the enterprise, referred to as Stocktake. During Stocktake, the principals review the long-term strategic direction of the enterprise and issue guidance for future collaborations. In support of the Stocktake principals, the Second Level is responsible for oversight of the exchanges. The Second Level principals meet approximately every six months and are led by government officials one step below the Stocktake principals. Second Level meetings review technical information, manage the bulk of the day-to-day business of the collaborations, and prepare materials for the Stocktake meetings.

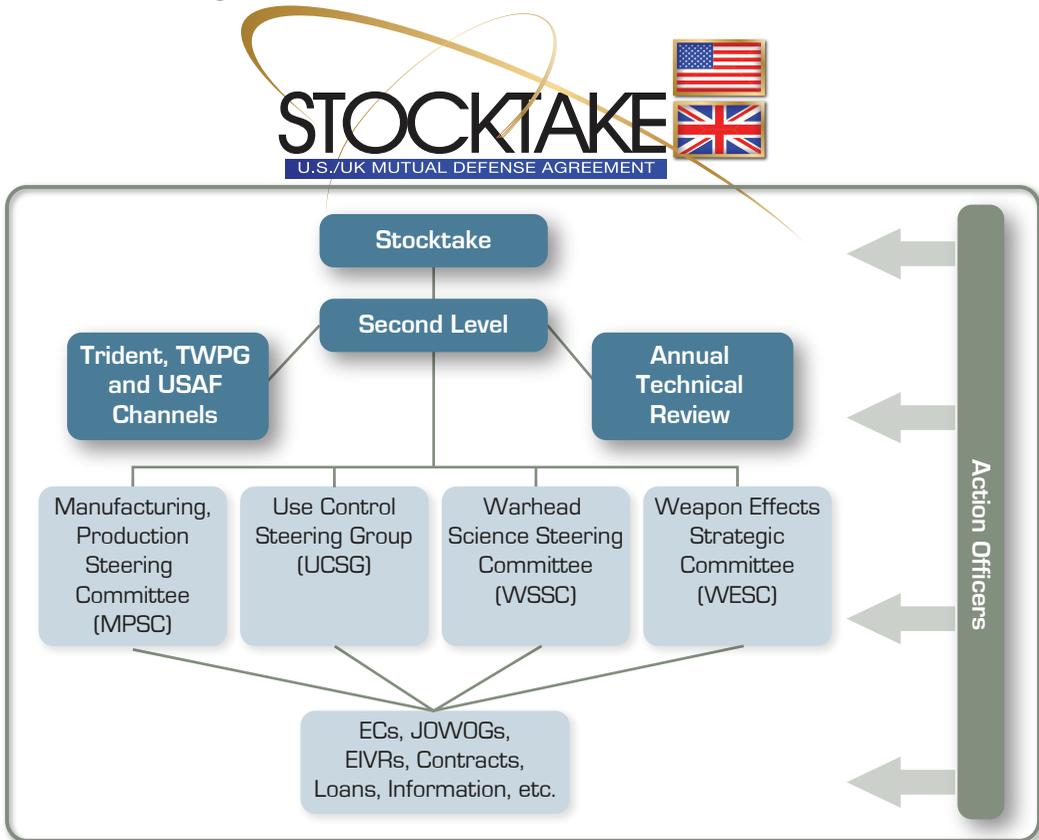


Figure 9.2 Management Arrangements

9.3.2 Administrative Arrangements

Administrative arrangements with the various nations and regional defense organizations lay out specific mechanisms for information exchange, whether in person, in written form, or electronically. The administrative arrangements supporting the MDA between the United States and the United Kingdom is a document detailing administrative procedures to be followed by the two countries in the implementation of the MDA. The arrangements cover topics such as transmission channels, visit requests, requests for information, marking of documents, reproduction, classification, reports, transmission to third nations, and dissemination.

9.3.3 Joint Atomic Information Exchange Group

The JAIEG is the U.S. entity responsible for reviewing and making determinations on the transmissibility of atomic information related to U.S. nuclear weapons sponsored for disclosure in light of the policy provided by the DoD, through the ASD(NCB), and the DOE, through the NNSA Administrator. The JAIEG is also responsible for providing support to the DoD, DOE/NNSA, and other requesting U.S. agencies in implementing and formulating administrative arrangements such as reporting, accounting, and dissemination procedures with other nations or regional defense organizations. For the United Kingdom, the Atomic Control Office in London or the Atomic Control Office in Washington, DC, act for the UK Ministry of Defence in these matters as they pertain to the MDA.

9.3.4 Joint Working Groups

The JOWOGs are administrative bodies established to facilitate the oral and visual exchange of technical information between representatives of the United States and the United Kingdom who are engaged in cooperation and research pursuant to the MDA. JOWOGs are co-chaired by the United States and the United Kingdom. JOWOG members are appointed by participating U.S.-UK laboratories and agencies dedicated to the advancement of research in a designated field. JOWOGs meet periodically to consider progress made, suggest further avenues for investigation, and propose divisions of work between participating laboratories or agencies. Under JOWOG auspices, visits between laboratories or agencies are made to review a particular project or to accomplish a specific objective. Examples of current JOWOGs include nuclear counterterrorism technology, nuclear warhead physics, nuclear warhead accident response technology, and methodologies for nuclear weapon safety assurance.

9.3.5 Exchange of Information by Visit and Report

In addition to JOWOGs, the United States has developed an EIVR concept to be used as an administrative instrument to promote the controlled oral or visual exchange of atomic information. EIVRs differ from JOWOGs in that they are normally not granted continuous authorization for the exchange of atomic information. Authorization to exchange U.S. atomic information under the aegis of an EIVR must be requested from the JAIEG on a case-by-case basis. Recent EIVR topics have included nonproliferation and arms control technology, safety and security, and nuclear intelligence.

9.3.6 Channels

In most cases, information exchanges must be approved on a case-by-case basis. Sometimes, however, when the nature of the exchange is predictable and repetitive, blanket approval for that type of information may be granted. Therefore, a final method of information sharing between the United States and a foreign government is called a channel. A channel is a joint arrangement between the United States and a foreign government for the exchange of specific project or program-type information. Channels are reserved for management executives and a few specific project-type data exchanges. The establishment of transmission channels with foreign governments and regional defense organizations are held to the minimum consistent with operational and security requirements. Currently approved channels between the United States and the United Kingdom include the U.S.-UK Executive Channel and the Trident Warhead Project Group Channel.

9.3.7 U.S.-UK Nuclear Threat Reduction

In recent years, the United States and the United Kingdom have built on their existing relationship to develop a series of scientific programs to address and reduce the threat posed by nuclear proliferation. As part of this work, the United States and the United Kingdom are jointly working to further develop the nations' capabilities in nuclear forensics to identify sources of radioactive material, improve capabilities to detect nuclear material, and improve abilities to respond to a terrorist nuclear incident. The United States and the United Kingdom are also working together on techniques to verify nuclear disarmament.