



# CHAPTER 10

## INTERNATIONAL NUCLEAR COOPERATION

### OVERVIEW

One of the critical roles of U.S. nuclear weapons is to contribute to the assurance of U.S. allies. The United States provides extended deterrence to a variety of countries and alliances, minimizing the need for other nations to pursue nuclear weapons capabilities of their own. In addition, nuclear terrorism and nuclear proliferation are global problems requiring cooperation among the United States and international partners and allies. The United States engages 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. 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 (UK), France, and NATO collectively.

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 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.<sup>1</sup> This MDA serves as a bilateral treaty between the United States and United Kingdom and is renewed every ten years.

Given the existence of a formal MDA, the AEA further stipulates that all exchanges conducted under the auspices of such an 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 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.

Statutory determinations are still the mechanism for authorizing specific information exchanges concerning nuclear weapons 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 to be shared. Most SDs relate to weapon design information, although increasingly SDs are being developed and approved to share nuclear information to counter the threats of nuclear terrorism and nuclear proliferation.

## 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 guarantees 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 military doctrine and procedure, combined training exercises, and intelligence sharing.

The Nuclear Planning Group (NPG), established in December 1966, provides a forum for NATO member nations to exchange information on nuclear forces and planning. Held 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.

The role of the NPG is to review the Alliance nuclear policy in 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 Alliance nuclear policy and in decisions on NATO nuclear posture, regardless of whether they host U.S. nuclear weapons. Decisions within

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<sup>1</sup> *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.

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, as well as 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 its subordinate body, 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, the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs (ASD(NCB)), 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 sessions four times annually and in plenary sessions twice annually.

In the latest *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, in 2010 NATO mandated the *Deterrence and Defence Posture Review* (DDPR). Issued in 2012, the DDPR reaffirmed nuclear weapons as a core component of NATO overall capabilities. As a contributor to the strategic nuclear forces of the NATO alliance, U.S. nuclear cooperation with NATO will continue to remain important.

## U.S.-UK MUTUAL DEFENSE AGREEMENT

The United States and 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 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 contributed to the decision to pursue the Manhattan Project.

Since 1958, under the auspices of 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 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 visible and shared commitment to NATO security. To facilitate this cooperation, both nations maintain liaison officers assigned within their respective nuclear oversight organizations. The closeness of the relationship and the level of nuclear cooperation between the two sovereign nations should never be mistaken for an inability to act alone. The POTUS is the only person who can authorize the use of U.S. nuclear weapons, while the UK Prime Minister (PM) is the sole individual able to authorize the launch of a UK nuclear missile.

Under the U.S.-UK MDA, there are regular exchanges of information and expertise 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 respective nuclear weapons programs.

Since the MDA was first signed in 1958, 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 weapons information.

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

Under the terms of the AEA, DoD and Department of Energy (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. Examples of these mechanisms include Management Arrangements, Joint Handbook and Administrative Arrangements, Joint Atomic Information Exchange Group (JAIEG), Strategic Collaborations (SCs), Joint Working Groups (JOWOG), Exchanges of Information by Visit and Report (EIVR), and Channels.

## MANAGEMENT ARRANGEMENTS

Management Arrangements detail the means of supervisory oversight over U.S.-UK nuclear warhead interactions under the MDA. The two management levels are known as “Stocktake” and “Second Level,” depicted in Figure 10.1. The Stocktake Principals, which include the ASD(NCB), the National Nuclear Security Administration (NNSA) Administrator, and the Director General Nuclear in the UK Ministry of Defence (MOD), meet approximately every 12–18 months to take stock of the enterprise. 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, comprised of the Deputy Assistant Secretary of Defense for Nuclear Matters (DASD(NM)), the Deputy Administrator NNSA Defense Programs (NA-10), and the Director Warhead, Defence Nuclear Organisation (UK MOD), is responsible for oversight of the exchanges, including government commitment of resources. 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, approve changes to existing work programs, prepare materials, and elevate issues for the Stocktake meetings.

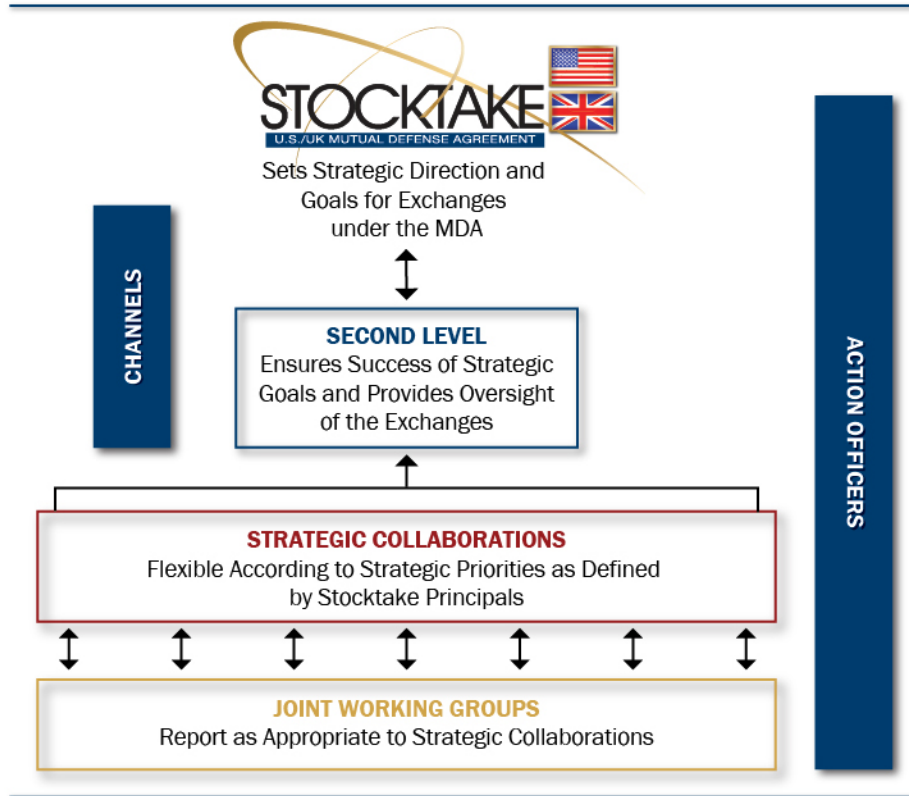


Figure 10.1 Management Arrangements  
 (Derived from the 2019 U.S.-UK Management Arrangements document)

## JOINT HANDBOOK AND ADMINISTRATIVE ARRANGEMENTS

Administrative Arrangements with various nations and regional defense organizations lay out specific mechanisms for information exchange, whether in person, in written form, or electronically. The Joint Handbook and Administrative Arrangements supporting the 1958 U.S.-UK MDA detail administrative procedures and guidance on the exchange of atomic information between the two nations. The arrangements cover topics such as transmission channels, visit requests, requests for information, marking and reproduction of documents, classification, reports, transmission to third nations, and dissemination.

## JOINT ATOMIC INFORMATION EXCHANGE GROUP

The JAIEG is the U.S. entity, jointly operated by DoD and DOE, responsible for reviewing and making determinations on the transmissibility of atomic information related to U.S. nuclear weapons sponsored for disclosure. JAIEG is also responsible for providing support to 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 UK, the Atomic Control Office in London or the Atomic Control Office in Washington, D.C., act for the UK MOD in these matters as they pertain to the MDA.

## STRATEGIC COLLABORATIONS

Strategic collaborations are multi-disciplinary groups responsible for ensuring that MDA collaboration is aligned with strategic national goals as determined by Stocktake and directed by the Second Level. SCs are

dynamic and flexible to support evolving strategic goals and coordinate across JOWOGs to achieve goals through alignment, integration, and enhanced communication. SCs facilitate communication between the working level and MDA leadership to ensure the Principals' direction is filtered down to the working level. Each SC requires a scope statement outlining activities to maintain high confidence in the safety, security, reliability, and near-/long-term sustainability of each nation's nuclear arsenal. Examples of current SCs include component maturation, warhead safety and security, and weapons effects.

## JOINT WORKING GROUPS

Joint working groups are collaborative bodies composed of members representing the U.S. and UK laboratories and/or agencies dedicated to the advancement of knowledge in a designated field. JOWOGs are co-chaired by the United States and the United Kingdom. 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 and counterproliferation technology, nuclear warhead physics, nuclear warhead accident response technology, and methodologies for nuclear weapon safety assurance.

## 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 a 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 include nonproliferation and arms control technology, safety and security, and nuclear intelligence.

## 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 exchange may be granted. Therefore, a 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, the Trident Warhead Project Group Channel, and the U.S.-UK Nuclear Threat Reduction (NTR) Channel.

## U.S.-UK NUCLEAR THREAT REDUCTION

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 and nuclear terrorism. As part of this work, the United States and the United Kingdom are jointly working to further develop each nation's capabilities in nuclear forensics to identify sources of radioactive material, improve capabilities to detect nuclear material, and enhance abilities to respond to a terrorist nuclear incident. The United States and United Kingdom are also working together on techniques to verify nuclear disarmament.

## U.S.-UK-FRANCE (P3) TRILATERAL PARTNERSHIP

In addition to bilateral relationships, the United States also coordinates with both the United Kingdom and France (P3) to maintain a program of enhanced technical collaborations on a wide range of NTR subjects. This robust partnership strengthens collective efforts to reduce the risks of nuclear terrorism. The P3 cooperation is based on a strong pillar of mutual trust and respect, and the three nations remain dedicated to improving technical and operational capabilities to diagnose, characterize, and dispose of a nuclear threat device. The P3 partnership has established a framework for cooperation on incident response and crisis management, nuclear energy and materials security, and sharing of threat-related information. These exchanges have had far-reaching effects not only on the policies of the three countries, but also on international nuclear security policy.

## NNSA INTERNATIONAL NTR COOPERATIVE ACTIVITIES

Nuclear/radiological terrorism is a global issue because a nuclear terror event anywhere in the world would have international implications and breach what had been the nuclear taboo (i.e., normative inhibition against the first use of nuclear weapons). As such, NNSA works bilaterally and in multilateral fora with key international nuclear partners and advanced civil nuclear energy countries around the world to address shared nuclear/radiological terrorism concerns and jointly reduce associated risks. These bilateral and multilateral engagements include mutually beneficial international nuclear counterterrorism dialogues that allow for regular discussion among the U.S. interagency with foreign counterparts on topics critical to reducing terrorist risks associated with civilian nuclear facilities and materials.

NNSA works with key partners to lead exchanges on technologies and approaches to secure and protect nuclear facilities and materials. NNSA conducts joint nuclear emergency preparedness and response exercises and training with foreign partners, including support to multilateral nuclear counterterrorism initiatives such as the Global Initiative to Combat Nuclear Terrorism and other international nuclear security initiatives.

NNSA also helps reduce terrorism risks associated with nuclear/radiological materials, facilities, or weapons of mass destruction (WMD)-related materials through outreach and training that strengthens counterterrorism capabilities and policies at home and overseas. For example, domestically, NNSA designs, produces, and conducts tailored tabletop exercises for public and private sector partners that have key roles and responsibilities in nuclear security. Designed to build teamwork and an in-depth understanding of the roles and responsibilities of agencies charged with responding to terrorist-related radiological, nuclear, or WMD-related incidents, these private—but unclassified—exercises bring together federal, state, and local decision makers and emergency responders.