



Updated November 18, 2024

AUKUS Nuclear Cooperation

On August 7, 2024, President Joseph Biden submitted to Congress an “Agreement among the Government of Australia, the Government of the United Kingdom of Great Britain and Northern Ireland, and the Government of the United States of America for Cooperation Related to Naval Nuclear Propulsion.” This In Focus explains the agreement’s substance, as well as provisions of the Atomic Energy Act (AEA) of 1954, as amended (P.L. 83-703; 42 U.S.C. §§2153 et seq.), concerning the content and congressional review of such agreements.

The 2024 agreement, which would permit the transfer of nuclear material and naval nuclear reactors among the three governments, would supersede a 2022 agreement that permitted only the transfer of Naval Nuclear Propulsion Information (NNPI) and Restricted Data (RD). The latter agreement entered into force on February 8, 2022.

Cooperation pursuant to the two agreements supports a project to develop Australian nuclear-powered submarines. This project is part of the AUKUS “enhanced trilateral security partnership,” which Australia, the United Kingdom, and the United States announced on September 15, 2021. The United States has a similar nuclear naval propulsion arrangement only with the United Kingdom pursuant to a bilateral 1958 Mutual Defense Agreement.

The partnership’s first initiative, according to a September 15, 2021, Joint Statement, was an 18-month study “to seek an optimal pathway to deliver” this submarine capability to Australia. On March 13, 2023, Australian Prime Minister Anthony N. Albanese, U.S. President Biden, and then-British Prime Minister Rishi Sunak announced a “phased approach” for Australian acquisition of a nuclear-powered submarine, called SSN-AUKUS, which is to be based on a “next-generation” British design and incorporate “cutting edge U.S. submarine technologies.” SSN-AUKUS “will be built and deployed by both Australia and the United Kingdom,” according to the leaders’ statement.

Agreement Details

The 2024 agreement would “permit the continued communication and exchange of NNPI, including certain RD,” among the three governments. The agreement would also permit “the transfer of naval nuclear propulsion plants,” along with associated components and spare parts, as well as “special nuclear material contained in complete, welded power units.” The agreement also includes an appendix containing detailed provisions concerning “information, physical, and personnel security.” The AEA defines RD to include “all data concerning ... the use of special nuclear material in the production of energy.” The AEA and 10 C.F.R. Part 810.3 define special nuclear material as plutonium, uranium-233, or enriched uranium.

The 2022 agreement was to remain in force until December 31, 2023, after which it would “automatically extend for four additional periods of six months each.” The 2024 superseding agreement is to expire in 2075.

The three governments have concluded an “understanding” related to the July 2024 agreement that “reflects the governments’ intended approach to certain articles” of that agreement and “provides additional related political commitments.” For example, nuclear cooperation “is to be carried out in such a manner” to avoid degrading either the U.S. and British governments’ abilities “to meet their respective military requirements” or “their respective naval nuclear propulsion programs.” The understanding, which would not be legally binding, would become operative when the 2024 nuclear cooperation agreement enters into force.

Related Nuclear Cooperation Agreements

The AEA authorizes and contains requirements for nuclear cooperation agreements governing both civil and military applications. The United States has nuclear cooperation agreements with both Australia and the United Kingdom that are relevant to the AUKUS agreement. The United Kingdom is a nuclear-weapon state under the nuclear Nonproliferation Treaty (NPT); Australia is not a nuclear-weapon state.

Civil Nuclear Cooperation Agreements

The United States and Australia first concluded a civil nuclear cooperation agreement in 1957. Those governments updated that agreement in 1979 and renewed it in 2010. Australia sells around 36% of its \$1 billion in uranium exports to the United States. The United States is also a major processor of Australian uranium sold to other countries. Australia does not currently possess any nuclear power plants, but it operates one research reactor. This agreement “specifically prohibits the transfer of restricted data under it,” as well as “sensitive nuclear technology, sensitive nuclear facilities and major critical components.”

As a nonnuclear-weapon state under the NPT, Australia has a comprehensive International Atomic Energy Agency (IAEA) safeguards agreement. Such agreements, according to the agency, are designed “to provide credible assurance to the international community that nuclear material and other specified items are not diverted from peaceful nuclear uses.”

The 1958 U.S. nuclear cooperation agreement with the European Atomic Energy Community (Euratom), renewed in 1995, provided the legal framework for civilian nuclear cooperation between the United States and United Kingdom. In anticipation of the latter’s withdrawal from the European Union (EU), and its legal association with

Euratom, the two governments concluded a bilateral nuclear cooperation agreement in 2018. Following the required congressional review period, the new agreement entered into force on December 31, 2020, after the UK withdrawal from the EU. The agreement is to remain in force for 30 years.

US-UK Mutual Defense Agreement

The Atomic Energy Act of 1946 (P.L. 79-585) restricted the sharing of nuclear weapons information with foreign governments, including the United Kingdom. However, an October 1957 Declaration of Common Purpose issued by President Dwight Eisenhower and UK Prime Minister Harold MacMillan stipulated that Eisenhower would request Congress to amend the Atomic Energy Act “as may be necessary and desirable to permit” bilateral nuclear cooperation. Congress adopted an amendment to the Atomic Energy Act in 1958 (P.L. 85-479), authorizing U.S. government transfer to foreign governments of information, as well as certain components, related to nuclear weapons. This amendment also authorizes the export of nuclear reactors and related information for naval propulsion.

In 1958, the United States and United Kingdom concluded the U.S.–UK Mutual Defense Agreement (MDA). The United States subsequently transferred a nuclear plant and associated reactor fuel to the United Kingdom for use in a submarine. The agreement, which the two parties amended in 2014, “provides the necessary requirements for the control and transmission of submarine nuclear propulsion technology, atomic information and material between the UK and US, and the transfer of non-nuclear components to the UK.” The 2014 amendment extended the MDA until 2024. President Biden submitted an amendment to Congress on July 29, 2024, to make the agreement indefinite. The amendment entered into force on November 14, 2024.

Atomic Energy Act Requirements

The AEA includes requirements for the content of nuclear cooperation agreements, related presidential determinations and other supporting information for submission to Congress, conditions affecting the implementation of an agreement, and procedures for Congress to consider and approve the agreement.

Section 91. c.(2) and c.(3): Nuclear Reactors and Nuclear Material

Section 91. c.(2) permits the NRC or DOD, with presidential authorization, to transfer “utilization facilities for military applications.” Such facilities include nuclear reactors, as well as listed “major components” of such reactors. Section 91. c.(3) permits similar transfers of “source, byproduct, or special nuclear material for research on, development of, production of, or use in utilization facilities for military applications.”

Section 144. c.(2): Military Nuclear Reactor Data

This section permits the Nuclear Regulatory Commission and Department of Defense, with presidential authorization, “to communicate or exchange with that nation Restricted Data concerning research, development, or design, of military reactors.” The President must determine that “the proposed cooperation” and data communication “will

promote and will not constitute an unreasonable risk to the common defense and security.”

Section 123

AEA Section 123 contains provisions governing nuclear cooperation agreements’ content, as well as associated congressional review procedures. Section 123 a. states that the proposed agreement is to include the terms, conditions, duration, nature, and scope of cooperation and lists mandatory criteria for the agreement. Agreements pursuant to the above-discussed AEA sections contain provisions governing nuclear cooperation applicable to military purposes. As noted, Section 123 also contains requirements applicable only to the content of exclusively civil nuclear cooperation agreements.

Section 123 a. mandates that a nuclear cooperation agreement pursuant to AEA Sections 91. c.(2) and (3) or Section 144. c.(2) contain

- a guarantee that safeguards on transferred nuclear material and equipment continue in perpetuity;
- a provision requiring the application of comprehensive IAEA safeguards to be applied in nonnuclear-weapon states;
- a prohibition on the retransfer of material or restricted data without U.S. consent;
- a requirement that the recipient state maintain physical security on transferred nuclear material;
- a prohibition on the recipient state’s use of transferred items or technology for any nuclear explosive device or for any other military purpose; and
- a provision specifying the U.S. right to demand the return of transferred nuclear materials and equipment, as well as any special nuclear material produced through their use, if the cooperating state detonates a nuclear explosive device or terminates or abrogates an IAEA safeguards agreement.

Section 123 a. requires that agreements pursuant to Section 144. c.(2) include

- a prohibition on using transferred items or technology for any nuclear explosive device or for any other military purpose; and
- a provision specifying the U.S. right to demand the return of transferred nuclear materials and equipment, as well as any special nuclear material produced through their use, if the cooperating state detonates a nuclear explosive device or terminates or abrogates an IAEA safeguards agreement.

Section 123 d. specifies the procedure for congressional approval of agreements such as the AUKUS agreement. (For more information, see CRS Report RS22937, *Nuclear Cooperation with Other Countries: A Primer*, by Paul K. Kerr and Mary Beth D. Nikitin.)

Paul K. Kerr, Specialist in Nonproliferation
Mary Beth D. Nikitin, Acting Section Research Manager

Disclaimer

This document was prepared by the Congressional Research Service (CRS). CRS serves as nonpartisan shared staff to congressional committees and Members of Congress. It operates solely at the behest of and under the direction of Congress. Information in a CRS Report should not be relied upon for purposes other than public understanding of information that has been provided by CRS to Members of Congress in connection with CRS's institutional role. CRS Reports, as a work of the United States Government, are not subject to copyright protection in the United States. Any CRS Report may be reproduced and distributed in its entirety without permission from CRS. However, as a CRS Report may include copyrighted images or material from a third party, you may need to obtain the permission of the copyright holder if you wish to copy or otherwise use copyrighted material.