

Nonproliferation Concerns

Australian SSN acquisition has naturally raised concerns of compliance with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). This will be the first time that the United States will share nuclear technology with a foreign country since a 1958 mutual defense agreement with the United Kingdom; the United States has not otherwise shared such technology with another state since the NPT went into force in 1970.¹

The AUKUS submarine deal would see Australia become the first country to exercise a “loophole” that allows it to remove nuclear material from the inspection system of the International Atomic Energy Agency (IAEA).² One concern is how this precedent could be exploited by other non-nuclear weapons states to divert materials from naval reactors and potentially use that material for weapons production.³ Another concern is that the AUKUS submarine deal may create a more permissive environment that would embolden other countries to develop their own heavily enriched uranium (HEU) fueled nuclear submarines and their own HEU fuel.⁴ HEU, or uranium enriched greater than 20%, is needed for the development of nuclear weapons. Nuclear weapons generally require enrichment levels of at least 80%—although an actor’s ability to meet this threshold is far easier after reaching the 20% enrichment mark.⁵

Both the US and UK submarine fleets use HEU to power their SSNs. HEU, compared to low enriched uranium (LEU), also has a much longer lifespan. The Virginia class HEU lasts for 33 years—the life of the submarine—while submarines using LEU must be refueled every one to three years.⁶

In recognition of these concerns, AUKUS partners completed an 18 month consultation period with the IAEA, the international organization tasked with NPT regulation and compliance. The Optimal Pathway was thus designed to meet the IAEA’s technical objectives of: 1) verifying no

¹ Shayan Karbassi, “Legal Mechanisms of AUKUS Explained,” *Lawfare Blog*, September 24, 2021, <https://www.lawfareblog.com/legal-mechanisms-aukus-explained>.

² James Acton, “Why the AUKUS Submarine Deal Is Bad for Nonproliferation—And What to Do About It,” *Carnegie Endowment for International Peace*, September 21, 2021, <https://carnegieendowment.org/2021/09/21/why-aukus-submarine-deal-is-bad-for-nonproliferation-and-what-to-do-about-it-pub-85399>.

³ Cathy Moloney, “AUKUS and the Nuclear Non-Proliferation Regime,” *The Interpreter*, September 28, 2021, <https://www.lowyinstitute.org/the-interpreter/aukus-and-nuclear-non-proliferation-regime>.

⁴ Trevor Findlay and Frank N. von Hippel, “The Australia-UK-U.S. Submarine Deal,” *Arms Control Today*, Volume 51, Number 9, November 2021, <https://sgs.princeton.edu/sites/default/files/2021-11/vonhippel2021-aukus.pdf>.

⁵ “Nuclear 101: Uranium Enrichment,” *Nuclear Threat Initiative*, 2023, <https://tutorials.nti.org/nuclear-101/uranium-enrichment/#:~:text=Uranium%20enriched%20to%20more%20than.required%20to%20build%20a%20bomb>.

⁶ Anastasia Kapetas, “Limiting the Nuclear-Proliferation Blowback from the AUKUS Submarine Deal,” *The Strategist*, September 21, 2021, <https://www.aspistrategist.org.au/limiting-the-nuclear-proliferation-blowback-from-the-aukus-submarine-deal/>.

diversion of nuclear material, 2) no misuse of nuclear facilities, and 3) no undeclared nuclear material or activity in Australia. Committed to maintaining the NPT, the AUKUS partners committed that Australia, as a non-nuclear weapons state at the time of its signature, does not currently nor will it seek to acquire nuclear weapons. Australia further committed to declaring all nuclear materials and activity to the IAEA throughout the implementation of the Optimal Pathway.⁷

⁷ “The AUKUS Nuclear-powered Submarine Pathway: A Partnership for the Future,” *UK Government*, March 2023, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1142588/The_AUKUS_nuclear_powered_submarine_pathway_a_partnership_for_the_future.pdf.