



A Dangerous Conspiracy:

The Nuclear Proliferation Risk of
the Nuclear-powered Submarines Collaboration
in the Context of AUKUS



China Arms Control and Disarmament Association
China Institute of Nuclear Industry Strategy

July 2022

A Dangerous Conspiracy:
The Nuclear Proliferation Risk of the
Nuclear-powered Submarines Collaboration
in the Context of AUKUS

China Arms Control and Disarmament Association
China Institute of Nuclear Industry Strategy

July 2022

Foreword

On September 15, 2021, the United States, the United Kingdom and Australia issued a joint statement announcing that they would create an enhanced trilateral security partnership (known as "AUKUS") to further deepen their strategic security and defense collaboration. Under the AUKUS framework, Australia will build at least eight nuclear-powered submarines with the help of the U.S. and the UK. The news caused an uproar across the world.

The AUKUS nuclear-powered submarines collaboration will set a dangerous precedent for the transfer of weapons-grade nuclear materials from nuclear-weapon states to a non-nuclear-weapon state, which is a blatant act of nuclear proliferation. Such move by the three countries is a serious violation of the object and purpose of the *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT), a direct contravention to the *Statute of the International Atomic Energy Agency* (IAEA's Statute), and a great challenge to the IAEA's existing safeguards system. It runs counter to the spirit of the *South Pacific Nuclear Free Zone Treaty*, and also undermines ASEAN countries' efforts to establish the Southeast Asia Nuclear Weapon-Free Zone. In addition, it ferments potential risks and hazards in multiple aspects such as nuclear security, arms race in nuclear submarines and missile technology proliferation, with a profound negative impact on global strategic balance and stability. Given Australia's ambition and track record in pursuit of nuclear weapons, especially the resurgence of forces arguing for nuclear weapons acquisition in recent years, the international community must maintain keen vigilance with regard to the AUKUS deal.

Bearing in mind the authority and effectiveness of the global nuclear nonproliferation regime with the NPT as its cornerstone, we prepared the report *A Dangerous Conspiracy: the Nuclear Proliferation Risk of AUKUS Nuclear-powered Submarines Collaboration* to present an accurate, comprehensive and informative description and analysis to both domestic audience and the international community, and make known the firm voice of Chinese think tanks and scholars with concerns over nuclear proliferation risks and a desire to safeguard world peace and security from an academic perspective.

We hope that this report will inform the relevant government organs, research institutions and the public about the situation and make a small contribution to the final resolution of the relevant problem. We will follow closely the complex political, legal, and technical issues involved in the AUKUS nuclear-powered submarines collaboration and update the report accordingly.

The data and materials referenced and included in the report are from open sources. Please feel free to contact us for information or comments. We have received encouragement and advice from many experts and scholars, and also referred to research findings of domestic and foreign think tanks and scholars. We extend our sincere gratitude and appreciation to all of them.

China Arms Control and Disarmament Association
China Institute of Nuclear Industry Strategy

July 2022

Contents

Summary	1
1. The United States, the United Kingdom and Australia announced the AUKUS partnership and nuclear-powered submarines collaboration.....	3
2. The AUKUS nuclear-powered submarine collaboration seriously violates the object and purpose of the <i>Treaty on the Non-Proliferation of Nuclear Weapons</i>	5
2.1 The object and purpose of the NPT is to prevent the proliferation of nuclear weapons in any form	5
2.2 Weapons-grade nuclear materials transfer	6
3. The AUKUS nuclear-powered submarine collaboration will be in direct violation of the IAEA's Statute	8
3.1 The IAEA's Statute is the legal basis for the establishment and operation of the Agency	8
3.2 The Statute specifies that the IAEA shall make sure that any assistance provided under its supervision or control is not used to further any military purpose.....	8
3.3 The AUKUS nuclear-powered submarine collaboration is in direct violation of the IAEA's Statute.....	8
4. The AUKUS nuclear-powered submarine collaboration poses a great challenge to the IAEA's existing safeguards system	10
4.1 The AUKUS nuclear-powered submarine collaboration poses a serious legal challenge to the IAEA's safeguards system	10
4.2 The AUKUS nuclear-powered submarines collaboration poses significant technical challenges to the IAEA with regard to verification	12
5. The AUKUS nuclear-powered submarine collaboration seriously undermines nuclear-weapon-free-zone treaties	13

5.1 The proposed AUKUS collaboration seriously under-mines the spirit of the <i>South Pacific Nuclear-Free Zone Treaty</i>	13
5.2 The proposed AUKUS collaboration undermine the efforts of ASEAN countries to establish the Southeast Asia Nuclear-Weapon-Free Zone	14
6. It cannot be ruled out that Australia may seek to develop nuclear weapons again in the future.....	15
6.1 Australia's nuclear ambition	15
6.2 Nuclear weapons possession advocates have resurged in Australia in recent years.....	17
6.3 The possibility of Australia pursuing nuclear weapons again in the future cannot be ruled out.....	17
7. Other adverse effects of the AUKUS nuclear-powered submarine collaboration	19
7.1 Serious nuclear security risks.....	19
7.2 Potential arms race in nuclear-powered submarines.....	19
7.3 The transfer of Tomahawk Cruise Missiles will pose a great challenge to the current international missile export control regimes .	19
7.4 Profound negative impact on global strategic balance and stability	20
8. The AUKUS countries are urged to immediately revoke the wrong decision, and the international community is called upon to take joint action to safeguard the global nuclear nonproliferation regime	21
8.1 The AUKUS countries are urged to immediately revoke their wrong decisions	21
8.2 The international community is called upon to take joint actions to safeguard the global nuclear nonproliferation regime	21

Summary

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the cornerstone of the current global nuclear nonproliferation regime, aims to prevent the proliferation of nuclear weapons in any form. The AUKUS nuclear-powered submarines collaboration is a serious violation of the object and purpose of the NPT, sets a dangerous precedent for the illegal transfer of weapons-grade nuclear materials from nuclear-weapon states to a non-nuclear-weapon state, and thus constitutes a blatant act of nuclear proliferation.

The *Statute of the International Atomic Energy Agency* (IAEA's Statute) specifies the objectives and functions of the International Atomic Energy Agency (IAEA), including that the IAEA shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose. The afore-mentioned collaboration involves weapons-grade nuclear materials, nuclear-powered submarine reactors and other items and related technical assistance that are obviously used in a way as to further military purposes. Therefore, it constitutes a direct violation of the IAEA's Statute, dealing a blow to the authority and effectiveness of the Agency.

The AUKUS nuclear-powered submarines collaboration cannot be brought into effective safeguards under the existing IAEA safeguards system. From a legal perspective, Article 14 of INFCIRC/153(*The Structure and Content of Agreements Between the Agency and States Required in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*) is mainly targeted at regulating the independent research and development of nuclear-powered submarines in states signatories. Arbitrary application of Article 14 by AUKUS will pose a serious legal challenge to the IAEA's safeguards system. From a technical perspective, it is a recognized challenge to verify nuclear-powered submarine reactors and nuclear fuels for them. Moves by the three countries will also present new technical challenges to the IAEA.

The establishment of nuclear-weapon-free- zones (NWFZ), as a regional non-proliferation approach, is an important part of the global nuclear non-proliferation regime. The introduction of nuclear-powered submarines, which are of great strategic importance, into a NWFZ seriously undermines the spirit of the *South Pacific Nuclear Free Zone Treaty*. Meanwhile, it poses a real threat to regional countries and damages the efforts of ASEAN countries to establish the Southeast Asia Nuclear-Weapon-Free Zone.

Claiming that it won't seek nuclear weapons, Australia is not without nuclear ambition. Declassified archives show clearly that post-WWII Australian administrations were keen to develop nuclear weapons, including seeking to acquire tactical nuclear weapons and their delivery systems from the United Kingdom and the United States and starting a domestic nuclear weapon program.

In recent years, there have again been people in Australia arguing the case for nuclear possession. The possibility of Australia seeking the development of nuclear weapons in the future may not be ruled out.

The proposed AUKUS collaboration will have other baneful effects, including higher nuclear security risks and a potential arms races in nuclear submarines. Additionally, the transfer of Tomahawk cruise missiles will also seriously weaken the existing international missile export control regime and have a profound negative impact on global strategic balance and stability.

In view of the above-mentioned developments, we urge the United States, the United Kingdom and Australia to immediately revoke their wrong decisions, stop their dangerous acts that undermine the global nuclear nonproliferation regime and damage global security and stability, and faithfully fulfill their international obligations in non-proliferation. We call on the international community to take pragmatic actions to jointly safeguard the integrity, authority and effectiveness of the global nuclear non-proliferation regime.

1. The United States, the United Kingdom and Australia announced the AUKUS partnership and nuclear-powered submarines collaboration

On September 15, 2021, the United States, the United Kingdom and Australia issued a joint statement announcing the establishment of AUKUS to strengthen their military capabilities in the Indo-Pacific region through cooperation in developing a wide range of advanced defense technologies. As the first cooperative project under the AUKUS framework, the US and the UK will assist Australia to build at least 8 nuclear-powered submarines, with specifics to be agreed in the next 18 months. For this reason, Australia canceled its on-going project with France for the latter to help it build conventionally-powered submarine, which had been going on for several years.

In addition to building nuclear-powered submarines, Australia will also acquire a range of long-range strike capabilities under AUKUS, including Tomahawk Cruise Missiles, Joint Air-to-Surface Standoff Missiles (JASSM), Long-Range Anti-Ship Missiles (LRASM), hypersonic missiles and precision-strike guided missiles, and develop its own guided weapons manufacturing capability.

On November 22, the three countries signed *the Agreement for the Exchange of Naval Nuclear Propulsion Information*, officially allowing Australia access to American and British classified information on nuclear-powered submarines. Australian Minister of Defense Peter Dutton said in a statement that the Agreement will support Australia in completing the 18-month examination of the requirements underpinning the delivery of nuclear-powered submarines and provide a mechanism for Australian personnel to access training from their UK and US counterparts, necessary for learning how to build, operate and support nuclear-powered submarines.

During the AUKUS Joint Steering Group meeting on Advanced Capabilities on December 9, participants committed to finalizing a program of work in relation to advanced capabilities by early 2022. Beyond the four initial areas of focus outlined in the Joint Leaders' Statement on AUKUS — cyber capabilities, artificial intelligence, quantum technologies, and additional undersea capabilities — participants also discussed other additional capabilities and agreed to identify potential opportunities for collaboration in those areas.

During the Joint Steering Group meeting on Australia's Nuclear-Powered Submarine Program on December 14, participants reaffirmed the trilateral commitment to bring the Australian capability into service at the earliest possible date. The delegations agreed on the next steps over the 18-month

consultation period to define the optimal pathway for Australia to acquire nuclear-powered submarines, and for the Working Groups to examine in detail the critical actions necessary to establish an enduring program in Australia.

On March 7, 2022, Australian Prime Minister Morrison and Defence Minister Dutton issued a statement saying that a new submarine base will be built on Australia's east coast to host its future nuclear submarines, and enable regular visits from of U.S. and U.K. nuclear-powered submarines. As Australia's first major military base since the 1990s, the total investment of the base is expected to more than AUD \$10 billion.

On April 5, The leaders of the United States, the United Kingdom and Australia issued a FACT SHEET on Implementation of the Australia – United Kingdom – United States Partnership (AUKUS), saying that since the establishment of AUKUS was announced in September last year, the three countries have held many meetings at the level of Senior Officials Group, Joint Steering Groups and Working Groups. The two related lines of the Submarines and Advanced Capabilities under AUKUS have made many important progress.

2. The AUKUS nuclear-powered submarine collaboration seriously violates the object and purpose of the *Treaty on the Non-Proliferation of Nuclear Weapons*

The *Treaty on the Non-Proliferation of Nuclear Weapons* (NPT) is the world's most universal and binding nuclear non-proliferation treaty. It was opened for signature in 1968 and entered into force in 1970. A total of 191 states have joined the Treaty, including the five nuclear-weapon states. In the more than 50 years since its entry into force, the NPT has played a vital and irreplaceable role in preventing the proliferation of nuclear weapons. It is the cornerstone of the current global nuclear nonproliferation regime.

2.1 The object and purpose of the NPT is to prevent the proliferation of nuclear weapons in any form

As stated in the preamble of the Treaty, states parties believe that preventing proliferation of nuclear weapons is conducive to reducing the risk of a nuclear war. They considered “the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples” and believed “that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war”.

Articles I and II of the NPT specify the nuclear non-proliferation responsibility and obligation of both nuclear-weapon and non-nuclear-weapon states. They are the core elements of the Treaty. Article I states: **Each nuclear-weapon State Party to the Treaty undertakes** not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and **not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture** or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices." Article II states: **"Each non-nuclear-weapon State Party to the Treaty undertakes** not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; **and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices."**

During the NPT negotiation process, the nuclear non-proliferation obligation of nuclear-weapon and non-nuclear-weapon states was most fiercely debated among all countries. It was the focus and most difficult part of the negotiation.

Article 2 (a) of the Guiding Principles for NPT Negotiations (Resolution 2028), adopted by the UN General Assembly in 1965, made it very clear that **"The Treaty should be void of any loop-holes which might permit nuclear or non-nuclear powers to proliferate, directly or indirectly, nuclear weapons in any form"**.

In short, preventing nuclear weapons proliferation under the NPT should not be narrowly construed as prohibiting only the direct transfer of completely-assembled nuclear weapons. Any and all assistance for a non-nuclear-weapon state to build nuclear weapons, by helping with parts and components or directly transferring a sufficient quantity of weapon-usable nuclear materials for example, is also act of proliferation against the object and purpose of the NPT.

2.2 Weapons-grade nuclear materials transfer

The AUKUS countries have been coy about the details of their nuclear-powered submarine collaboration and so far failed to disclose to the international community information central to the world's concern. What nuclear materials will be used in the submarine reactors and how will they be transferred? Australian Prime Minister Morrison explicitly stated that the nuclear submarine reactors will never need to be refueled for their entire lifespans, which is a feature **currently only of reactors using weapons-grade highly-enriched uranium1 (HEU)**. In view of the fact that the US and the UK are currently using weapons-grade HEU (93.5% U-235)² in their submarine reactors, the international community generally believes that the nuclear materials involved in the proposed AUKUS collaboration will also be weapons-grade HEU. International arms control experts estimated that the eight nuclear submarines will need a total of 1.6 to 2 tons of weapons-grade HEU³. As 25 kilograms of weapons-grade HEU is needed to make one nuclear weapon⁴, the weapons-grade nuclear materials to be transferred to Australia by the other two countries would be sufficient to build as many as 64 to 80 nuclear weapons.

Weapons-grade nuclear materials are the source, material basis, and fundamental prerequisite for nuclear weapons. Historically, many countries with nuclear ambitions failed to obtain weapons-grade nuclear materials in a sufficient quantity due to limitations in production technology and capability when they tried to develop nuclear weapons. The US and the UK, both nuclear-weapon states under the NPT, blatantly exporting tons of weapons-grade nuclear materials to a non-nuclear weapon state is an obvious act of nuclear proliferation. Australia, a non-nuclear-weapon state under the NPT, openly

¹ According to IAEA report, HEU refers to the uranium with a U-235 isotopic content of greater than or equal to 20%. Generally, uranium with a U-235 isotopic content greater than or equal to 90% is considered weapons-grade.

² International Panel on Fissile Materials, "US study of reactor and fuel types to enable naval reactors to shift from HEU fuel".

³ This is stated in a related article by Tariq Rauf, Director of the Arms Control and Nonproliferation Program of the Stockholm International Peace Research Institute, Sweden.

⁴ According to IAEA report, 25 kilograms of weapons-grade HEU or 5 kilograms of weapons-grade plutonium constitutes a "significant quantity," i.e., the minimum quantity to make one nuclear weapon.

accepting such a large quantity of weapons-grade nuclear materials is nothing short of "getting one foot across the nuclear threshold". The move will be in serious violation of the object and purpose of the NPT, with enormous harm.

3. The AUKUS nuclear-powered submarine collaboration will be in direct violation of the IAEA's Statute

3.1 The IAEA's Statute is the legal basis for the establishment and operation of the Agency

The IAEA is the intergovernmental organization responsible for regulating the activities related to peaceful uses of atomic energy. Through years of efforts, the IAEA's Statute was adopted at the UN General Assembly in 1956 and opened for signature. It entered into force in 1957. As the basic document of the IAEA, the Statute is the legal basis for the establishment and operation of the Agency and the legal basis for the Agency to formulate and implement the safeguards.

3.2 The Statute specifies that the IAEA shall make sure that any assistance provided under its supervision or control is not used to further any military purpose

Article II of the Statute sets out the objectives of the IAEA, i.e., "The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. **It shall ensure, so far as it is able, that assistance provided by it or at its request or under its supervision or control is not used in such a way as to further any military purpose.**"

Article III of the Statute details the functions of the IAEA. Paragraph A(5) reads, "(the IAEA is authorized) To establish and administer safeguards designed to **ensure that special fissionable and other materials, services, equipment, facilities, and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose**; and to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State, to any of that State's activities in the field of atomic energy."

3.3 The AUKUS nuclear-powered submarine collaboration is in direct violation of the IAEA's Statute

The Statute authorizes the IAEA to apply safeguards to prevent any assistance provided under its supervision or control from any use to further any military purpose. It is noteworthy that "military purpose" is not restricted to nuclear weapons, but apparently includes other military uses, e.g. nuclear-powered submarines. The proposed transfer of weapons-grade nuclear materials, nuclear-powered submarine reactors and other items and related technical assistance from the US and the UK to Australia obviously constitutes a clear

"military purpose". The three countries not only are members of the IAEA but also used to lead the negotiation of the draft Statute. They have now gone back on their words and put their own selfish interests above the international order based on international law, seriously undermining the authority and effectiveness of the IAEA's Statute with far-reaching negative impact on the global nuclear nonproliferation regime.

4. The AUKUS nuclear-powered submarine collaboration poses a great challenge to the IAEA's existing safeguards system

The IAEA implements safeguards to verify whether a state is in compliance with its international commitment not to divert nuclear programs and activities to nuclear weapon purposes. The legal authority of the Agency to develop and implement safeguards comes from its Statute, the NPT, nuclear-weapon-free zone treaties, bilateral and multilateral treaties between states, and other arrangements. In fact, safeguards emerged long before the establishment of the IAEA and were further strengthened and improved after the conclusion of the Statute in 1956. They have been adapted and updated since the NPT entered into force in 1970, leading to iterations of the template documents for the safeguard agreements between the IAEA and the states concerned, from the earliest INFCIRC/26 (IAEA's earliest verification code), INFCIRC/66 (a specific template document for safeguards agreement), INFCIRC/153 (the Comprehensive Safeguards Agreements between the IAEA and the states concerned in accordance with the NPT requirements) to the latest INFCIRC/540 (the model additional protocol). This section will focus on the prevailing comprehensive safeguards agreements.

4.1 The AUKUS nuclear-powered submarine collaboration poses a serious legal challenge to the IAEA's safeguards system

In order to make space for their own development of nuclear-powered submarines, some non-nuclear-weapon states pushed to exempt the nuclear materials used in "non-proscribed military activities" from the safeguards during the negotiation of the comprehensive safeguards agreements in the 1960s and 1970s. Under Article 14 of the comprehensive safeguards agreement, a state seeking an exemption from the IAEA safeguards needs to provide assurance that the nuclear materials used in "non-proscribed military activities" are not used in the building of nuclear weapons or other nuclear explosive device. The IAEA shall immediately implement the safeguards if such nuclear materials are used again in peaceful activities (e.g., spent fuel reprocessing) and shall have continuous access to the information on the quantity and composition of such nuclear materials and any notifications on the export of them, provided that military secrets are not involved.

Since Article 14 has never been activated in reality and has not been considered by sessions of the NPT Review Conference or the IAEA Board of Governors, the international community does not have an agreed view about the definition of "non-proscribed military activities" or the scope or procedures for exemptions from the safeguards. In 1978, Australia wrote to the Director

General of the IAEA, seeking a clarification about the application of Article 14 and stating the Australian understanding that the parties are obliged to follow the procedures set out in this Article, to notify the IAEA in this regard and to clarify the situation with the members of the Board of Governors, that the arrangements with the IAEA in this regard are subject to the approval of the Board of Governors, and that failure by the parties to follow these procedures would constitute a breach of the comprehensive safeguards agreement. The Director General of the IAEA responded that, as no NPT party had so far sought to apply Article 14, the Board of Governors had not yet had the opportunity to interpret the Article and relevant procedures, but from the perspective of the IAEA Secretariat, Australia understood it correctly, and that the Secretariat would report to the Board of Governors any notification by the party's application of Article 14, the arrangements entered into by the IAEA with the party, or any breach by the party of the procedures set out in Article 14, and accordingly the Board of Governors has the authority to take appropriate action in this regard. In the 1980s, some international arms control experts also sought clarification from the IAEA, and the Secretariat responded that given the lack of a clear definition of "non-proscribed military activities", nuclear-powered submarine reactors were considered the most likely activity, but that activities such as uranium enrichment or reprocessing of the nuclear fuel in the reactor by the state in question would still be subject to the IAEA's safeguards.

Notably, the international community generally accepts that Article 14 is primarily targeted at the development of nuclear-powered submarines by the state concerned, rather than by the building assistance by another state(s). This is because the Statute, since the inception of the IAEA, clearly states that the IAEA shall apply safeguards to prevent any assistance provided under its supervision or control from the use in furtherance of any military purpose. Therefore, applying Article 14 arbitrarily to a situation where a state receives assistance from another state to build a nuclear-powered submarine would be in direct violation of the above provisions of the Statute and jeopardize the object and purpose of the NPT, which is apparently not the intent of the negotiators of the comprehensive safeguards agreement. It was reported that the US, the UK and Australia had informed the IAEA of their proposed nuclear-powered submarines collaboration and been in contact with the Secretariat, which will certainly involve complex legal issues related to the safeguards of the nuclear fuels used in nuclear-powered submarine reactors. As such, the collaboration undoubtedly poses a huge legal challenge to the IAEA's existing safeguards system.

In addition, it needs to be clear that **neither the three countries nor the IAEA have the authority to interpret Article 14 of the comprehensive safeguards agreements**. According to Article IV.C of the Statute, "the Agency is based on the principle of the sovereign equality of all its members." Historically, the modification, interpretation and implementation of the various types of the IAEA's safeguards agreements, e.g. INFCIRC/66, INFCIRC/153 or INFCIRC/540, require consensus among all willing IAEA member states and then are approved and adopted by the IAEA Board of Governors. Regardless of

the involvement of the IAEA Secretariat, no state or group of states shall discuss the issues related to the safeguards implementation unilaterally and in a small scope, because such discussion will certainly have far-reaching impacts on the IAEA's safeguards system and affect the interests of all members of the Agency.

4.2 The AUKUS nuclear-powered submarines collaboration poses significant technical challenges to the IAEA with regard to verification

Firstly, the verification process will inevitably involve sensitive information such as internal composition, geometric structure and size of nuclear fuel assemblies, and therefore how to achieve effective monitoring while protecting sensitive information has long vexed the international community. **Secondly**, as nuclear-powered submarines cruise in the deep sea for a long time, the IAEA are not able to have full tracking and verification on them at anytime and anywhere and needs to upgrade its technical means. **Thirdly**, since no non-nuclear-weapon state to the NPT has previously invoked exemptions from safeguards on nuclear-powered submarine reactors, it is necessary to verify the operability and effectiveness of any verification technology before use. **Fourthly**, a universally agreed verification scheme has not yet been developed internationally due to the different attention and concerns of states regarding sensitive information on nuclear fuel in nuclear-powered submarine reactors. **Fifthly**, the international verification schemes that have been proposed all have some shortcomings. The "black box" scheme, for instance, is controversial with regard to the starting and end points of verification and lacks essential timeliness, credibility or operability, or the technical means for verification tracking and information shielding. The IAEA and its member states have made long-standing arduous efforts to maintain the comprehensiveness and effectiveness of the safeguards system. Allowing a large number of weapons-grade nuclear materials to stay out of regulation for an extended time runs counter to the international non-proliferation efforts. The AUKUS move has already posed a new technical challenge to the IAEA and the international community.

5. The AUKUS nuclear-powered submarine collaboration seriously undermines nuclear-weapon-free-zone treaties

A nuclear-weapon-free zone refers to a zone free of nuclear weapons recognized by the UN General Assembly, which is established voluntarily by a group of states in the region concerned through a treaty based on the free exercise of their sovereignty. The NPT gives the state parties the right to establish nuclear-weapon-free zones. Since the emergence of the concept in the 1950s, nuclear-weapon-free zones have been established in Latin America and the Caribbean, South Pacific, Southeast Asia, Africa and Central Asia. These creations, as a regional non-proliferation approach, are an important part of the global nuclear non-proliferation regime.

5.1 The proposed AUKUS collaboration seriously under-mines the spirit of the *South Pacific Nuclear-Free Zone Treaty*

Specified by the *South Pacific Nuclear Free Zone Treaty* (“*Treaty of Rarotonga*”), each party undertakes: (a) not to manufacture or otherwise acquire, possess or have control over any nuclear explosive device by any means anywhere inside or outside the South Pacific Nuclear-Free Zone; (b) **not to seek or receive any assistance in the manufacture or acquisition of any nuclear explosive device**; (c) not to store any nuclear explosive device in the territory of any party; and (d) not to dump radioactive wastes and other radioactive matter at sea anywhere within the South Pacific Nuclear-Free Zone⁵. As stated above, the treaty prohibits not only nuclear weapons but also nuclear explosive devices for peaceful purposes and it does not allow the dumping of nuclear waste and other radioactive materials at sea. The restrictions on nuclear activities are very firm and thorough, reflecting the common aspirations of the island states and people of the South Pacific. However, the AUKUS nuclear-powered submarines collaboration will give Australia access to tons of weapons-grade HEU, putting the South Pacific region once again under the cloud of nuclear proliferation and seriously undermining the spirit of the *Treaty of Rarotonga*.

In addition, the *South Pacific Nuclear Free Zone Treaty* is accompanied by three protocols. Each party to Protocol 1 undertakes to apply certain prohibitions and safeguards under the Treaty to the territories situated within the South Pacific Nuclear-Free Zone for which it is internationally responsible. The intended parties are the US, the UK and France. Each party to Protocol 2

⁵ United Nations, Office for Disarmament Affairs, “South Pacific Nuclear-Free Zone Treaty: Status” <http://disarmament.un.org/treaties/t/rarotonga> and “Nuclear-Weapon-Free-Zones: South Pacific,” Inventory of International Nonproliferation Organizations and Regimes, Center for Nonproliferation Studies, Last Update: 11 May 2012.

undertakes not to use or threaten to use any nuclear explosive device against parties to the Treaty. The intended parties are the US, the Soviet Union, the UK, France and China. Each party to Protocol 3 undertakes not to test any nuclear explosive device anywhere within the Zone. The intended parties are the US, the Soviet Union, the UK, France and China. **It is worth noting that the US has not ratified any of the three protocols so far. It is also the only one of the five nuclear-weapon states that has not done so.**

5.2 The proposed AUKUS collaboration undermine the efforts of ASEAN countries to establish the Southeast Asia Nuclear-Weapon-Free Zone

Under the *Southeast Asia Nuclear Weapon-Free Zone Treaty* (“*SEANWFZ Treaty*”), each state party undertakes not to: develop, manufacture or otherwise acquire, possess or have control over nuclear weapons; station nuclear weapons by any means; test or use nuclear weapons in anywhere inside or outside the Zone; **seek or receive any assistance with this regard**; take any action to assist or encourage to manufacture or otherwise acquire nuclear weapons; **supply source materials or special fissionable materials or equipment to any non-nuclear-weapon state or any nuclear-weapon state, except under full-scope safeguards of the IAEA**; or dump at sea anywhere within the Zone any radioactive material or wastes. The potential entry of Australian nuclear-powered submarines into Southeast Asian waters have caused serious concerns among countries in the region. It is therefore a real threat to regional countries and undermines the efforts of ASEAN countries to establish the Southeast Asia Nuclear-Weapon-Free Zone.

6. It cannot be ruled out that Australia may seek to develop nuclear weapons again in the future

Against the backdrop of high international concern over the risk of nuclear proliferation brought about by the proposed AUKUS nuclear-powered submarine collaboration, Australian Prime Minister Morrison said, "Australia is not seeking to acquire nuclear weapons or establish a civil nuclear capability". However, the truth is, Australia is not without a nuclear ambition. After the end of World War II, several Australian administrations sought to acquire tactical nuclear weapons from the UK and the US, or indirectly do so by purchasing nuclear delivery systems, or even manufacture nuclear weapons by producing weapons-grade nuclear materials domestically. Despite Australia's signature and ratification of the NPT, a strong force advocating possession of nuclear weapons still exists in Australia today. On the basis of declassified nuclear files and related materials, we try to shed light on the little-known history of Australia's obsessive pursuit of nuclear weapons.

6.1 Australia's nuclear ambition

6.1.1 The Australian military actively sought to purchase tactical nuclear weapons

In 1956, Townley, then commander of Royal Australian Air Force (RAAF), wrote to Minister of Defense McBride, proposing to purchase tactical nuclear weapons for the "Canberra" bomber⁶. In 1957, during a meeting with a visiting British delegation, then Prime Minister Menzies personally asked if the UK could supply Australia with nuclear weapons⁷, and subsequently the RAAF Lieutenant General made a direct request to the Marshal of the British Royal Air Force to purchase tactical nuclear weapons⁸. In January 1958, when the then British Prime Minister Macmillan visited Australia, the Australian Government made a formal request to purchase tactical nuclear weapons. In August of the same year, Menzies once again asked visiting British Minister of Supply Jones about purchasing nuclear warheads⁹.

6.1.2 Australia pursued nuclear delivery systems to indirectly acquire nuclear weapons

In January 1958, Australia approached the British Royal Air Force about

⁶ Australian Archives (ACT): A1945/13 186-5-3; Memo from Athol Townley, Minister for Air, to Philip McBride, Minister for Defense September 12, 1956, p. 1.

⁷ Australian Archives (ACT): A1945/13,186-5-3; Extracts from Notes of Meeting in Cabinet Room at Parliament House, Canberra at 10:30 AM on Friday, March 15, 1957 (Top Secret).

⁸ PRO: D0 35/8287; Cabinet: Prime Minister's Commonwealth Tour, Brief by the Commonwealth Relations Office, Supply of Kiloton Bombs to Australia, January/February 1958, GEN 622/1/60, December 18, 1957, p. 1.

⁹ Australian Archives (ACT): A1838/269, TS680-10; Record of Discussions with Mr. Aubrey Jones, Minister of Supply in the United Kingdom Government, 13th August, 1958 (Top Secret).

purchasing the V-Bombers¹⁰. In September of the same year, during a visit to the UK, the RAAF Lieutenant General once again expressed Australia's willingness to purchase the V-Bombers¹¹. Since 1960, Australia's interest in nuclear-capable bombers has turned to TSR-2 bomber¹². In 1961, during a meeting between the Australian and British defense ministers, Australia explained its interest in TSR-2 bomber, stating that "if Australia were to purchase the TSR-2 bomber, it would like to ensure that British nuclear weapons would be available to the bomber if necessary¹³". As the TSR-2 bomber development program was canceled, Australia eventually purchased the F-111 fighter-bomber from the US, which is also capable of delivering nuclear weapons. Moreover, Australia also sought to purchase the British "Bloodhound" missile, including the Mk-III capable of carrying nuclear warheads¹⁴, but also failed due to the termination of the British development program.

6.1.3 Australia sought British and American commitment to provide it with nuclear weapons if needed

Into the 1960s, during negotiations among the Soviet Union, the US and the UK on a nuclear test ban, the Soviet Union insisted that the treaty should include the Australian monitoring stations because Britain had conducted several nuclear tests in Australia. In order to resume negotiations, the UK requested permission to provide these monitoring stations¹⁵. Menzies, then Prime Minister of Australia, argued that in return for joining the treaty, the US and the UK should commit to providing Australia with extended deterrence and, if Australia needs them, nuclear weapons¹⁶. In June 1961, the Cabinet of Australian Government adopted Menzies' proposal and authorized a response to the UK request, seeking "formal recognition of the United Kingdom about its obligation to provide Australia with nuclear capabilities when necessary"¹⁷.

6.1.4 Australia launched a program to build nuclear weapons domestically

Since 1964, the Australian Government has re-examined its nuclear policy and reckoned with how to realize and strengthen its local manufacturing capability of nuclear weapons¹⁸. In 1965, the Australian Government ordered the Australian Ministry of Supply and the Australian Atomic Energy Commission to

¹⁰ PRO: D0 35/8287; Memo from F. R. Carey, UK Joint Service Liaison Staff, to William S Bates, Office of High Commissioner for the United Kingdom, Canberra, October 31, 1958, p. 2; Cawte, *Atomic Australia*, p. 108.

¹¹ PRO: D0 35/8287; Memo from F. R. Carey, UK Joint Service Liaison Staff, to William S Bates, Office of High Commissioner for the United Kingdom, Canberra, October 31, 1958, p. 2; Cawte, *Atomic Australia*, p. 108.

¹² PRO: DO 35/8288; Committee Minutes, Ministry of Defence, Co-operation with Australia in the Development of New Weapons, (S.E. (0)C / P (60)25) July 19, 1960, pp. 1, 5 (Secret).

¹³ PRO: D0 35/8287; Memo from N. Pritchard, [Acting Deputy Under-Secretary of State, CRO], to the Secretary of State for Commonwealth Relations, July 20, 1961, pp. 1-2.

¹⁴ PRO: DO 35/8288; Draft Minute from Secretary of State to Prime Minister, March 21, 1960; PRO: DO 35/8288, Outward Telegram from Commonwealth Relations Office, Canberra, No. 471, March 30, 1960 (Top Secret).

¹⁵ Australian Archives (ACT): A5818/2; Robert Menzies to the Cabinet, Nuclear Tests Conference: Control Posts in Australia, Submission No. 1156, V6, pp. 1-6 (Secret).

¹⁶ Australian Archives (ACT): A5818/2; Robert Menzies to the Cabinet, Nuclear Tests Conference: Control Posts in Australia, Submission No. 1156, V6, p. 13 (Secret).

¹⁷ Australian Archives (ACT): A5818/2; Cabinet Minute, Canberra, June 13, 1961, Decision No. 1383, Submission No. 1156, Nuclear Tests Conference: Control Posts in Australia, V6 (Secret).

¹⁸ Howson, *The Howson Diaries...*, pp. 181- 183.

estimate the cost of manufacturing nuclear weapons domestically¹⁹. In 1967, then Prime Minister Holt and the Defense Council of Australia arranged a research program to assess the possibility of Australia to manufacture nuclear weapons independently and the arrangements with its allies. In January 1968, new Prime Minister Gorton explicitly refused to sign the NPT, and at the same time launched an ambitious nuclear weapons program that included spending on building nuclear reactors and uranium enrichment plants, producing weapons-grade plutonium and weapons-grade HEU for nuclear warheads, and strengthening its nuclear research talent pool. The then Australian Foreign Minister McMahon supported joining the NPT and pressured Prime Minister Gorton through the UK and the US. Australia finally approved the NPT in January 1973, and since then Australia's status as a non-nuclear-weapon state was formally fixed in legal form.

6.2 Nuclear weapons possession advocates have resurged in Australia in recent years

In July 2019, White, a former official of Australian Department of Defense who participated in writing Australia's *Defense White Paper 2000*, published a book titled *How to Defend Australia*, saying that the strategic situation in the region where Australia is located is undergoing a fundamental shift, that Australia's current policy of not possessing nuclear weapons may not be sustainable, and that Australia must reflect on its military position and may need to consider possessing nuclear weapons.

In September 2020, Mukilan, a researcher at the Australian Institute of International Affairs (AIIA), published an article titled *Australia's Nuclear Dilemma*, pointing out that Australia, with its abundant uranium resources and nuclear research forces, has the inherent advantage of developing nuclear defense capabilities. The author suggests that, in the face of the changing situation in the Asia-Pacific Region, Australia should adopt a "hedging strategy" and gradually build up its nuclear defense capabilities on the basis of its current non-proliferation policy to avoid being trapped in a strategic dilemma; at the same time, Australia should maintain its "nuclear option", focus on upgrading its manufacturing capability of nuclear weapons, and acquire the necessary nuclear technology and materials on a low profile, so as to shorten its "strategic vulnerable period" and rapidly manufacture nuclear weapons when needed.

6.3 The possibility of Australia pursuing nuclear weapons again in the future cannot be ruled out

Successive Australian administrations have actively sought to develop nuclear weapons, including acquiring tactical nuclear weapons from the UK and the US, or otherwise indirectly acquiring nuclear weapons by purchasing nuclear delivery systems, or promoting Australia's independent manufacture of nuclear

¹⁹ Archives of the Department of Foreign Affairs and Trade: Unregistered document; Paper y Department of Supply and A.A.E.C., Costs of a Nuclear Explosives Programme, p. (Top Secret).

weapons. In recent years, some Australian scholars have been consistently advocating the possession of nuclear weapons. The Australian nuclear ambition must cause great vigilance of the countries in the region and the international community.

The AUKUS nuclear-powered submarine collaboration involves the transfer of a great deal of weapons-grade nuclear materials, which cannot be effectively regulated under the IAEA's current safeguards system. In addition, given the fact that Australia already has a body of nuclear weapons-related knowledge accumulated historically and that it will get into its hands nuclear-capable delivery systems, once the country takes the desperate step to develop nuclear weapons again, the lead time to a nuclear breakthrough will be too short for the international community to respond effectively.

7. Other adverse effects of the AUKUS nuclear-powered submarine collaboration

7.1 Serious nuclear security risks

The US and some other Western countries have been sending nuclear-powered submarines to patrol other countries' waters under the banner of "freedom of navigation" for years, and these submarines cause serious radioactive pollution to the surrounding environment in case of nuclear accidents. Since 1954, there have been more than 140 accidents of various scales involving American nuclear-powered submarines, including many major ones such as reactor failures and sinking of nuclear-powered submarines. After the collision accident of the US Navy nuclear-powered attack submarine "USS Connecticut" in the South China Sea in October 2021, the US deliberately delayed and concealed the details. So far, it has not yet given a responsible and detailed account of whether the accident caused nuclear leakage or damage to the marine environment, causing widespread suspicion and criticism. What is true of the US is even truer of Australia, a country without the appropriate accident handling capabilities and experience. In the event of an accident, a large amount of radioactive nuclear waste will be released into the sea, which will not only be a direct violation of the *South Pacific Nuclear-Free Zone Treaty*, but also seriously damage the global marine environment and endanger human health.

7.2 Potential arms race in nuclear-powered submarines

The AUKUS nuclear-powered submarine deal will prompt other countries to reconsider their submarine ambitions, unleashing new nuclear proliferation momentum among non-nuclear-weapon states that pursue nuclear-powered submarines or have expressed a similar intention. The resources and technologies required to build and operate these nuclear-powered submarines are daunting for most countries. However, the bad precedent set by the AUKUS deal is likely to stimulate some countries to try and possess nuclear-powered submarines in the same way, thus triggering a submarine arms race. Some may even try to cross the nuclear threshold, thus stimulating regional countries to expand their military power, which will raise the risk of military conflicts and ultimately pose a great threat to world peace and stability.

7.3 The transfer of Tomahawk Cruise Missiles will pose a great challenge to the current international missile export control regimes

Upon the announcement of AUKUS, the three countries emphasized that the US and the UK would not only assist Australia in building nuclear-powered submarines, but also provide it with long-range precision-strike capabilities,

including Tomahawk Cruise Missiles, joint air-to-surface standoff missiles, long-range anti-ship missiles, hypersonic missiles and precision-strike guided missiles. The Tomahawk Cruise Missile, for example, is an offensive nuclear-capable weapon developed by the US and has been deeply marked by American militarism since its inception. The deal this time will involve the latest version of Tomahawk, with a range of 1,700km, far exceeding the maximum limit of the "Missile Technology Control Regime" (MTCR)²⁰. Ironically, the three countries, who are not only members but also major advocates of the MTCR, are now putting the pursuit of defense capabilities ahead of their non-proliferation and export control commitments, in stark contrast to the restrained, prudent and responsible attitude of other countries in missile transfer. This once again reflects their double standards in international order, and poses a great challenge to international missile export control regimes, including MTCR.

7.4 Profound negative impact on global strategic balance and stability

The development of AUKUS and the proposed nuclear-powered submarine collaboration are, in essence, attempting to drawing ideological lines and creating a new military bloc. The move will aggravate geopolitical tensions. While the international community is generally opposed to cold war and division, the US, openly violating its policy declaration of not engaging in a new Cold War, gangs up to create an Anglo-Saxon "circle", mobilizes resources toward the Indo-Pacific region, applies high-tech and strategic forces to expand its military influence, and puts geopolitical self-interest ahead of international solidarity. Such a move represents a resurgence of Cold War thinking and will exacerbate the risk of military confrontation and conflict. Nuclear-powered submarines not only have a mobile strategic strike capability, but also have the potential to carry nuclear weapons. With Australia attached to the US and UK leading to increased military capabilities as a group, the nuclear balance among nuclear-weapon states and global strategic stability will be profoundly impacted.

²⁰ The "Missile Technology Control Regime", aiming to prevent the proliferation of the missiles capable of carrying weapons of mass destruction and related technologies, restricts member countries from exporting ballistic missiles and cruise missiles with a range of more than 300km and a payload of more than 500kg.

8. The AUKUS countries are urged to immediately revoke the wrong decision, and the international community is called upon to take joint action to safeguard the global nuclear nonproliferation regime

On June 6, 2022, upon China's proposal, the IAEA decided by consensus to add a formal agenda item for the Board of Governors to discuss "Transfer of nuclear materials in the context of AUKUS and its safeguards in all aspects under the NPT". This is the third time that the IAEA has reviewed this agenda item since the Board of Governors in November 2021 and March 2022. This reflects the serious concern of the members of the Board of Governors on this matter and the somber realization that it is beyond the existing mandate of the IAEA Secretariat and must be explored and solved by the IAEA member states through an intergovernmental process. In light of these developments, we hereby urge these three countries to immediately revoke the wrong decision, and at the same time call on the international community to act together to safeguard the global nuclear nonproliferation regime and prevent the international order from being affected again.

8.1 The AUKUS countries are urged to immediately revoke their wrong decisions

The US and the UK, as nuclear-weapon states under the NPT, should abandon their old "Cold War" thinking and narrow geopolitical ideas, immediately stop their dangerous nuclear proliferation practices, immediately revoke their wrong decisions, faithfully fulfill their international non-proliferation obligations, and do more things beneficial to the international non-proliferation regime and world peace and security. Australia, as a non-nuclear-weapon state under the NPT, should cease its dangerous collaboration with the other two countries with a sense of responsibility for its own people and the international community as a whole, pending a solution is determined by consensus among all member states of the IAEA.

8.2 The international community is called upon to take joint actions to safeguard the global nuclear nonproliferation regime

We also call on the international community to take pragmatic actions to safeguard the object and purpose of the NPT and jointly maintain the integrity, effectiveness and authority of the global nuclear nonproliferation regime. Firstly, joint efforts should be made to promote the early establishment of a special committee-like regime by the IAEA, open to all member states, to discuss the legal and technical aspects of the application of safeguards on nuclear submarine

power reactors and related nuclear materials in non-nuclear-weapon states, and to submit recommendations to the IAEA Board of Governors and the UN General Assembly. Secondly, broader discussions should be held within the international multilateral disarmament and non-proliferation regime, such as the five nuclear-weapon states (P5), the UN Security Council, the UN General Assembly First Committee and the UN Conference on Disarmament. In particular, there should be a separate agenda at the 10th NPT Review Conference to consider the transfer of nuclear materials, safeguards and other issues affecting the NPT as a result of the AUKUS nuclear-powered submarine collaboration. Thirdly, with this as a warning and from a practical point of view, efforts should be stepped up to improve the comprehensiveness of the current global nuclear nonproliferation regime and clarify the scope of application of the relevant provisions in legal instruments, so as to avoid malicious use and confusion by certain states with ulterior motives.



A Dangerous Conspiracy:

The Nuclear Proliferation Risk of
the Nuclear-powered Submarines Collaboration
in the Context of AUKUS