



# Six Questions on Naval Nuclear Propulsion and IAEA Safeguards

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Member States of the International Atomic Energy Agency (IAEA) have long considered the implications of non-nuclear-weapon States party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) developing military naval nuclear propulsion capabilities. This brief considers the compatibility of

non-explosive military uses of nuclear energy with the NPT, the IAEA Statute and INFCIRC/153 – the document that informs the structure and content of NPT safeguards agreements. It also considers practical implications for the non-application of safeguards on nuclear material in such uses.

## 1. Is naval nuclear propulsion compatible with the NPT?

### Yes.

The prohibitions enshrined in the NPT are outlined in Articles I and II of the Treaty. Article I prohibits nuclear-weapon States from transferring nuclear weapons or other nuclear explosive devices to any recipient, and also from assisting, encouraging or inducing non-nuclear-weapon States to manufacture or acquire nuclear weapons or nuclear explosive devices, or control thereof. Article II of the NPT contains corresponding provisions for non-nuclear-weapon States.

Article III of the NPT requires all non-nuclear-weapon States to conclude a safeguards agreement with the IAEA to be applied “on all [nuclear] material in all peaceful nuclear activities” of the State (emphasis added).

The prohibitions outlined in the NPT apply to nuclear weapons and other nuclear explosive devices, and the safeguards provision applies to nuclear material in peaceful uses. While this excludes explosive military nuclear uses, it does not prohibit non-explosive military nuclear uses such as naval nuclear propulsion, regardless of the enrichment of the nuclear material or whether it is domestically produced or transferred from another State.

**Pertinent Documents** Treaty on the Non-Proliferation of Nuclear Weapons, Articles I, II and III

## 2. Is naval nuclear propulsion compatible with the IAEA Statute?

### Yes.

Article III.A.5 of the IAEA Statute authorises the Agency to establish and administer safeguards in three instances. The first instance is to ensure that nuclear material, services, equipment, facilities and information made available by the Agency are not used to further any military purpose (emphasis added). The second instance is at the request of parties to any bilateral or multilateral arrangement. This is the case under which non-nuclear-weapon States Parties to the NPT accept safeguards. In this part of Article III.A.5 there is no clause related to “any military purpose”.

The third instance is at the request of a State to any of that State's activities in the field of atomic energy.

While the Statute authorises the IAEA to establish and administer safeguards in the above cases, the Statute itself does not constitute an agreement for the application of safeguards in any given State. For such application, the State or States concerned must conclude a specific agreement with the IAEA.

**Pertinent Documents** Statute of the International Atomic Energy Agency, Article III.A.5.  
GOV/COM.22/4  
GOV/INF/433

### 3. Was naval nuclear propulsion envisioned under INFCIRC/153?

#### Yes.

The basic undertaking in safeguards agreements based on INFCIRC/153, known as comprehensive safeguards agreements (CSAs), mirrors the NPT's provision that safeguards are to be applied "on all [nuclear] material in all peaceful nuclear activities" in the State, within its territory, under its jurisdiction or carried out under its control anywhere. As with the NPT, while explosive military nuclear uses are prohibited under CSAs, non-explosive military nuclear uses are not.

When the IAEA was tasked with verifying States' non-proliferation commitments under the NPT, the IAEA's Board of Governors established Committee 22 to determine what NPT safeguards agreements would entail. Committee 22 worked on the basis of a note by the Director General (GOV/COM.22/3). As non-explosive military nuclear uses were not prohibited by the NPT, the note contained language on the non-application of safeguards to nuclear material in non-peaceful activities.

In this respect, Committee 22 negotiated what would become paragraph 14 of INFCIRC/153. Under paragraph 14 a CSA should "provide that if a State intends to exercise its discretion to use nuclear material which is required to be safeguarded there under in a nuclear activity which does not require the application of safeguards under the Agreement" (i.e. a non-explosive military nuclear use), the Agency and the State must make an arrangement for the non-application of safeguards on that material. Naval nuclear propulsion was mentioned as one such use.

**Pertinent Documents** INFCIRC/153, paragraphs 1, 2 and 14.  
GOV/COM.22/3  
GOV/INF/433

### 4. Would Board approval be required for an arrangement for the non-application of safeguards on material used in naval nuclear propulsion?

#### Not necessarily.

When the Director General submitted his note to Committee 22 as the basis for what would become INFCIRC/153, part of his proposal for a clause on the non-application of safeguards to nuclear material to be used in non-peaceful activities was that Board approval would be required for such an arrangement. Committee 22 argued against the prospect of this requirement for several reasons.

First, given that non-explosive military nuclear uses were not prohibited by the NPT, Member States that participated in Committee 22 expressed the view that the conclusion of an arrangement under paragraph 14 should be as expedient as possible. This is why subsection (c) of paragraph 14 notes that the "Agency's agreement shall be given as promptly as possible" and that the arrangement "shall only relate to the temporal and procedural provisions, reporting arrangements, etc."

Second, during Committee 22 the view was expressed that, as the NPT did not prohibit non-explosive military nuclear uses, no Member State should be able to block the conclusion of a paragraph 14 arrangement because it objected to the nature of the use. The Director General *may* consult with the Board, but is under no obligation to do so.

**Pertinent Documents** GOV/COM.22/3  
GOV/COM.22/6  
GOV/COM.22/OR.13

## 5. What would an arrangement for the non-application of safeguards on material used in naval nuclear propulsion entail?

To date, no State has made a paragraph 14 arrangement with the IAEA. Under paragraph 14, an arrangement may be made under the following conditions.

- The State informs the IAEA of the activity, making it clear that the use of the nuclear material in question will not conflict with any undertaking of that State to use such material for exclusively peaceful purposes.
- The nuclear material is not used for the production of nuclear weapons and other nuclear explosive devices while the material is withdrawn from safeguards.
- The arrangement only applies while the nuclear material is in the non-explosive military use. Once reintroduced into a peaceful nuclear activity, safeguards measures once again apply.
- The State informs the Agency of the quantity and composition of the material, as well as its export.

However, as a paragraph 14 arrangement has never been made, what it would entail is not clear. It would likely be based on a number of factors, including the State's nuclear fuel cycle, the enrichment level and form of the fuel, the nature and extent to which the State would have access to the fuel (e.g. refuelling cycle), the duration of non-application of safeguards and supply arrangements (if applicable).

## 6. What are the safeguards implications for naval nuclear propulsion programmes?

As there has never been a paragraph 14 arrangement, much is still unknown. Should a State enter into such an arrangement, it will set a precedent against which future paragraph 14 arrangements will be measured.

Notwithstanding, a paragraph 14 arrangement for one State could differ considerably from that of another, depending on the factors noted previously.

Some have suggested a formulaic approach to what a paragraph 14 arrangement should look like. Should this approach be pursued, it would be important for that process to be conducted on a technical basis rather than a political one, especially considering the drafters' desire for paragraph 14 arrangements not to be subject to Board approval. As an article corresponding to paragraph 14 is present in all CSAs with non-nuclear-weapon States, attention should be paid to innovative and sound technical approaches to maintaining confidence that nuclear material in non-peaceful activities on which safeguards are not applied is not used for the manufacture of nuclear weapons.

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**Pertinent Documents** GOV/COM.22/OR.11  
GOV/COM.22/OR.14