

情况通报

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中文

原语文: 英文

中华人民共和国常驻国际原子能机构代表团 2023年6月1日的照会

1. 秘书处收到中华人民共和国常驻国际原子能机构代表团 2023 年 6 月 1 日的普通照会及其附文。
2. 谨此按请求分发该普通照会及其附文，以通告全体成员国。

中华人民共和国
常驻维也纳代表团

编号：CPM-P-2023-34

国际原子能机构
秘书处

中华人民共和国常驻维也纳联合国和其他国际组织代表团向国际原子能机构秘书处致意，并谨此向秘书处提交中国常驻代表团 5 月 18 日在维也纳国际中心组织的讲习班“AUKUS 与第 14 条：未来的挑战”的总结。

中国常驻代表团希望及时将本照会及随附总结正式分发全体成员国。

中华人民共和国常驻维也纳联合国和其他国际组织代表团借此机会再次向原子能机构秘书处致以最崇高的敬意。

2023 年 6 月 1 日·维也纳

[印章]

主席的总结报告¹

“AUKUS 与第 14 条：未来的挑战”

中国常驻代表团组织的研讨会

维也纳国际中心 CR.2: 2023 年 5 月 18 日

说明：本总结报告是为理事会 6 月会议提供资料而准备的，目的是提高成员国对与执行 INFCIRC/153 (Corr.) 第 14 条有关的问题的敏感性和复杂性的认识。

5 月 18 日，中国常驻代表团在维也纳国际中心组织了题为“**AUKUS 与第 14 条：未来的挑战**”的研讨会。来自国际原子能机构（原子能机构）31 个成员国的 80 多名代表出席了研讨会。法律事务办公室防扩散和决策处处长 Ionut Suseanu 先生作为原子能机构秘书处的代表参加了此次研讨会。

讨论的重点是 AUKUS 核潜艇合作的各方面问题与“全面保障协定”第 14 条（原子能机构 INFCIRC/153 (Corr.)）。活动由中国军控与裁军协会秘书长李池江先生主持。三位专家小组成员作了演讲，并分享了他们的观点，他们是：

- Tariq Rauf 博士（原子能机构直属总干事办公室核查和安保政策协调处前处长），他演讲的主题是“原子能机构保障面临的紧迫挑战：舰艇核动力推进”；
- Laura Rockwood 女士（维也纳裁军和防扩散中心非驻地高级研究员，原子能机构法律事务办公室防扩散和政策处前处长），她演讲的主题是“潜艇与保障所涉及的基本问题”；以及
- Anton Khlopkov 先生（能源和安保研究中心主任），他演讲的主题是“AUKUS 与第 14 条”。

在问答环节中，与会者进行了深入的互动。在这次研讨会上，演讲者和讨论者主要表达了以下观点（演讲全文的 PDF 文件附后）。

AUKUS 在采购核动力潜艇上的合作标志着《不扩散核武器条约》的核武器国家有史以来第一次向该条约的无核武器缔约国转让使用武器级高浓铀作为燃料运行的舰艇核动力反应堆。这将开创一个先例，无论对原子能机构保障体系核实《不扩散核武器条约》无核武器国家核活动申报的正确性和完整性，还是对以《不扩散核武器条约》为基石的国际防止核扩散制度的完整性，都构成了重大的挑战。AUKUS 项目预计将使用大约两吨或更多的 93%—97.3%高浓铀作为舰艇核动力推进用反应堆的燃料。INFCIRC/153 (Corr.) 第 14 条涉及“不对用于非禁止的军事活动的核材料实施保障”。

¹ 本“主席的总结报告”仅供参考，其中涵盖了所提出的主要议题和与所宣布的主题有关的讨论领域，既未打算寻求所有与会者的一致同意，也不意味着包罗万象和面面俱到。

迄今尚无“不实施”全面保障的经验或跟踪记录。AUKUS 项目如果以目前的保密形式着手进行直至完成，将在没有理事会和成员国商定的参数和商定的谅解的情况下开创一个先例。此外，自 AUKUS 协定宣布以来 18 个多月过去了，但迄今尚未就第 14 条举行有秘书处、AUKUS 协定缔约方和成员国参与的任何技术、政策或法律简况介绍会或磋商。这明显背离了原子能机构以往就有关解释、实施或加强原子能机构保障的事项进行不限成员名额磋商的做法。理事会内这种不限成员名额的磋商小组和委员会曾参与起草、谈判和最后审定保障框架，包括 INFCIRC/153 (Corr.)、“93+2”保障加强措施、INFCIRC/540 (附加议定书范本) 和“小数量议定书”的修正/废止。

关于 INFCIRC/153 (Corr.) 第 14 条，有人指出，据秘书处所知，没有关于“非禁止的军事活动”的正式定义。为了对第 14 条的规定达成共同商定的谅解，不限成员名额的磋商将是有益的，甚至是必要的。此外，任何一个或多个国家都不可能自己揽责，以确定第 14 条的含义和范围 — 这只能由成员国在不限成员名额的磋商中完成。

有人指出，“军方对军方”的舰艇核燃料转让不能免除将第 14 条规定作为法律和政策事项援引的要求。另一个重要意见是，无论根据第 14 条作出何种安排，其设计都必须适合目的，而不论伙伴国是谁。归根结底，任何特定安排的可接受性都应根据其防扩散的优点来判断，并能经受住以下考验：如果所涉当事方的名称改变，它是否仍可令人接受？

有意见认为，参与讨论和核准第 14 条安排的应该是原子能机构，意即原子能机构的成员国及其理事机构，包括原子能机构理事会，而不是原子能机构秘书处。在原子能机构的历史上，很难找到一份由理事会通过投票而非协商一致方式核准的概念性保障文件。以澳大利亚和原子能机构之间的安排建立一个先例，可能会威胁到保障方案的普遍性，而且可能对原子能机构保障体系的长期有效性和可持续性产生负面影响。

以下简要介绍讨论会议的情况。

一些观点质疑为何理事会没有在制定有关第 14 条的政策和技术谅解方面发挥更大的主导作用。参与讨论和核准这一安排的应该是原子能机构的成员国及其理事机构，包括原子能机构理事会。在原子能机构理事会没有发挥积极作用的情况下，以澳大利亚和原子能机构之间的安排建立一个先例，可能会威胁到保障方案的普遍性，而且可能对原子能机构保障体系的长期有效性和可持续性产生负面影响。因此，必须事先与原子能机构成员国进行讨论，以便以协商一致方式通过这一安排。从根本上说，保障的历史已经证明，具有包容性的协商一致是照顾到所有关切的长期解决方案。

需要清楚地认识到，有关解释和执行“全面保障协定” (INFCIRC/153 (Corr.)) 的事项本质上是涉及所有原子能机构成员国和《不扩散核武器条约》缔约国的政治和政策事项。核武器国家向无核武器国家转让核材料在第 14 条中既不明确也不存在。

从“全面保障协定”（INFCIRC/153（Corr.））的谈判历程中可以看出，对于将任何核材料用于《不扩散核武器条约》规定的非禁止的军事目的，无论该材料最初是否处于保障之下，都应与原子能机构和成员国进行磋商，并达成令人满意的行政安排。澳大利亚似乎根据第 14 条要求的安排涉及复杂的法律和技术问题，需要进行仔细和整体的分析和深入讨论。

由于 AUKUS 潜艇合作是史无前例的，因此，所选择的保障方案不仅将较普遍地定义所有未来的核动力潜艇采购计划，而且还将定义未来有关第 14 条的任何工作。因此，应在原子能机构进行成员国之间专业的和政府的开放式讨论，以解决这一问题。考虑建立一个专家机制（可能有各种形式），将原子能机构秘书处、成员国和相关专家的知识 and 经验结合起来，也许是有意义的。

关于 AUKUS 与第 14 条的讨论只是漫长政府间过程的开端。在研讨会期间，提出了许多（如果不是所有）必要的问题，但为所有这些问题找到答案不是现在的目的。

除其他外，研讨会期间特别提出了以下问题，这些问题反映了 AUKUS 潜艇合作项目的一些复杂情况：

- 原子能机构秘书处是否有权力或授权来解释《不扩散核武器条约》的规定？
- 对根据第 14 条制定的 AUKUS 保障安排进行解释是否属于秘书处和理事会的专属管辖权？
- 理事会和成员国为何没有在制定有关执行 INFCIRC/153（Corr.）第 14 条的政策和技术谅解方面发挥主导作用？
- 对于以高浓铀为燃料的舰艇核动力推进用反应堆和燃料来说，什么才是可信的保障方案和相关技术目标？
- 如果《不扩散核武器条约》的无核武器国家执行不对拟用于非和平活动的核材料实施保障的 INFCIRC/153（Corr.）第 14 条，那么根据附加议定书得出更广泛的结论将受到何种影响？
- “全面保障协定”将如何处理向《不扩散核武器条约》的无核武器国家转让以高浓铀为燃料的舰艇核动力推进用反应堆的问题？
- 对 AUKUS 潜艇项目实施保障能否被视为技术“援助”，这种“援助”是否会违反《国际原子能机构规约》第二条？
- 澳大利亚需要落实哪些保障措施，才能确保其核动力潜艇项目的问责制和透明度，特别是考虑到将使用两吨或更多的武器级高浓铀？
- 如何评价这前所未有的 AUKUS 项目对原子能机构现有保障体系的挑战，特别是在原子能机构就所有保障、安全和安保事项进行所有相关成员国参与的包容、透明、不限成员名额的磋商这一标准做法方面？

- 有关成员国可向总干事和秘书处提供哪些支持，以促进就有关第 14 条的解释和执行事项进行不限成员名额的磋商和举行技术简况介绍会？
- 秘书处应发挥什么作用，以促进关于 AUKUS 的政府间讨论过程？

Briefing for Governors and Permanent Representatives Accredited to the IAEA

**THE LOOMING CHALLENGE TO IAEA SAFEGUARDS:
Naval Nuclear Propulsion**



Tariq Rauf
Vienna: 18 May 2023
(tariqrauf@icloud.com)




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Conflict of interest and Funding

- The author has declared no conflict of interest. No IAEA Member State has influenced the findings of this project.
- No financial support for this project has been sought nor received from any source whatsoever.

Tariq Rauf: 01/06/2023

2

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Notate bene

- 1) The views expressed in this presentation do **not** reflect those of the IAEA Secretariat – the views are those of the presenter for purposes of information and discussion ...
- 2) The IAEA is a complex international technical organization with a broad Statutory mandate for nuclear verification supplemented by NPT mandate for CSAs in NNWS party to the Treaty ...

Tariq Rauf: 01/06/2023

3

3

Notate bene

3. For your information, I and my then-colleague Marie-France Desjardins were the first to assess and report on the matter of **nuclear-powered submarines (SSNs) and the spread of nuclear weapons** in our 1988 publication > cover on the next slide. In 2003 and in 2006, I briefed the **Conference on Disarmament** on the challenges to safeguards posed by SSNs > references in following slides. Since the **September 2021 AUKUS and June 2022 Brazil** announcements on acquisition of SSNs, I have published a number of assessments on the challenges to IAEA safeguards of the proliferation of SSNs to NNWS and exemption of several SQs of weapon-usable nuclear material from safeguards due to loopholes in the NPT and INFC IRC/153. Corr.

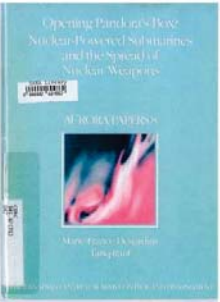
Tariq Rauf: 01/06/2023

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Canadian Centre for Arms Control and Disarmament (1988)

Opening Pandora's Box: Nuclear-Powered Submarines and the Spread of Nuclear Weapons
by Marie-France Desjardins and Tariq Rauf (1988)




The first ever detailed assessment of the "loop hole" in INFCIRC/153 (Corr.) - comprehensive safeguards agreement – that could open the door for the non-application of Agency safeguards on naval nuclear propulsion reactors and nuclear fuel (HEU / LEU) amounting to 2 tonnes or more...

01/06/2023

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Conference on Disarmament: Summary of the Fifth Open-ended Informal Meeting on FMCT held in Geneva on 26 September 2003 (CD/1719)



Dr. Rauf gave a presentation on the **problems arising from the use of fissile material as fuel for submarines in relation to non-proliferation implications**. He especially drew the attention of the meeting to the **lack of safeguards in this respect**. He added that if a **future FMCT would not cover naval propulsion, an important gap in the system of safeguards would remain**

01/06/2023

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Conference on Disarmament: Summary of the Fifth Open-ended Informal Meeting on FMCT held in Geneva on 26 September 2003 (CD/1719)

CONFERENCE ON DISARMAMENT
26/09/2003
Original: ENGLISH

Dr. Miller outlined the dangers of the diversion of HEU (Highly Enriched Uranium), particularly WGU (Weapon Grade Uranium) with regard to possible terrorist use to build a gun-type nuclear weapon

By means of examples (the widely spread HEU research reactors and nuclear powered submarines) Dr. Miller gave an overview of the difficulties in relation to a future FMCT and the present dangers of proliferation

LETTER DATED IN TORONTO FROM THE PRESIDENTIAL REPRESENTATIVE FOR THE FEDERAL GOVERNMENT TO THE CONFERENCE ON DISARMAMENT...
CONFERENCE ON DISARMAMENT, 26 SEPTEMBER 2003
I have the honor to forward to you a summary of the fifth open-ended informal meeting...
The text of this document was the subject of a discussion...
I would be pleased if you could issue this letter as well as the attachments to it in your own official language...

01/06/2023

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CONFERENCE ON DISARMAMENT

CD/PV.1037
24 August 2006
ENGLISH

Conference on Disarmament: CD/PV.1037 (24 August 2006)

FINAL RECORD OF THE ONE THOUSAND AND THIRTY-SEVENTH PLENARY MEETING

Held at the Palais des Nations, Geneva, on Thursday, 24 August 2006, at 10:25 a.m.

President: Mr. Anton PINTER (Slovakia)

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Conference on Disarmament: CD/PV.1037 (24 August 2006)

CD/PV.1037
2

The PRESIDENT I declare open the 1037th plenary meeting of the Conference on Disarmament.

At the outset, I would like to warmly welcome Dr. Tariq Raaf, Head of Verification and Security Policy of the Office of External Relations and Policy Coordination of the International Atomic Energy Agency. It is with us today, invited by the Conference, to make a presentation on the prohibition of the production of fissile material for nuclear weapons and other nuclear explosive devices.

Following his presentation, the Conference will hold an informal plenary meeting during which delegations will have an opportunity to ask questions of Dr. Tariq Raaf and his colleague, Mr. Robert Faghrabi, and make comments. After the conclusion of the informal plenary meeting, the Conference will convene a plenary meeting to continue its consideration of agenda item 7, entitled "transparency in armaments".

I now give the floor to Dr. Tariq Raaf.

Mr. RAAF (International Atomic Energy Agency): The International Atomic Energy Agency is pleased for this opportunity to come and make a presentation on issues related to a cut-off of production of fissile material for nuclear weapons and other nuclear explosive devices. Since IAEA's main task is nuclear verification, the thrust of my presentation will deal with issues related to nuclear verification.

I have with me Mr. Robert Faghrabi, who is from the Division of Concepts and Planning in the Department of Safeguards. He is a nuclear inspector, and he'll be with me and endeavor to answer your questions following my presentation.

My presentation is divided into four parts with a brief introduction, followed by a definition of terminology as we use it at IAEA in the context of nuclear verification, a brief update on verification of nuclear materials coming out of new low-enrichment, and then, finally, a short look at verification issues and a conclusion. My statement is relatively long, so I hope you will bear with me.

01/06/2023

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CONFERENCE ON DISARMAMENT

CD/PV.1037
2

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01/06/2023

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Organization of the Briefing

- CSA INFCIRC/153 Corr. > paragraph 14 on non-proscribed nuclear military activities
- Safeguards exception under NPT and CSA (para. 14)
- AP INFCIRC/540 > broader conclusion
- Definitions, starting point of safeguards exception
- Implications for strengthened IAEA safeguards
- Role of the DG, Secretariat, Board, Member States
- Proliferation of Nuclear-Powered Submarines

Tariq Raaf 01/06/2023

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Naval Nuclear Propulsion: NPT and IAEA Safeguards

INF

International Atomic Energy Agency
INFCIRC/291
18 December 1974
GENERAL ENGLISH
Original: ENGLISH

THE TREATY OF THE AGREEMENT BETWEEN AUSTRALIA AND THE AGENCY FOR THE APPLICATION OF SAFEGUARDS IN CONNECTION WITH THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS

1. The text of the Agreement between Australia and the Agency for the application of safeguards in connection with the Treaty on the Non-Proliferation of Nuclear Weapons is reproduced in this document for the information of all Members.

2. The Agreement entered into force on 17 July 1974, pursuant to Article IV.

01/06/2023

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Naval Nuclear Propulsion: NPT and IAEA Safeguards

Non-application of safeguards to nuclear material used in non-peaceful activities

"Loophole" in INFCIRC/153 (Corr.)?

NON-APPLICATION OF SAFEGUARDS TO NUCLEAR MATERIAL TO BE USED IN NON-PEACEFUL ACTIVITIES

Article 14

If Australia intends to exercise its discretion to use nuclear material which is required to be safeguarded under this Agreement in a nuclear activity which does not require the application of safeguards under this Agreement, the following procedures shall apply:

(a) Australia shall inform the Agency of the activity, making it clear:

(i) That the use of the nuclear material in a non-proscribed military activity will not be in conflict with an undertaking Australia may have given and in respect of which Agency safeguards apply, that the nuclear material will be used only in a peaceful nuclear activity; and

(ii) That during the period of non-application of safeguards the nuclear material will not be used for the production of nuclear weapons or other nuclear explosive devices;

(b) Australia and the Agency shall make an arrangement so that, only while the nuclear material is in such an activity, the safeguards provided for in this Agreement will not be applied. The arrangement shall identify, to the extent possible, the period or circumstances during which safeguards will not be applied. In any event, the safeguards provided for in this Agreement shall apply again as soon as the nuclear material is reintroduced into a peaceful nuclear activity. The Agency shall be kept informed of the total quantity and composition of such unsecured nuclear material in Australia and of any export of such nuclear material; and

(c) Each arrangement shall be made in agreement with the Agency. Such agreement shall be given as promptly as possible and shall relate only to such matters as, inter alia, temporal and procedural provisions and reporting arrangements, and shall not involve any approval or classified knowledge of the military activity or reliance on the use of the nuclear material therein.

01/06/2023

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Questions: NPT, INFCIRC/153

- Is the negotiating history of the NPT clear regarding "peaceful" and "non-prohibited nuclear military activities" > what is the evidence in negotiating records, background and working papers, interpretive statements and understandings?
- The NPT is silent on non-proscribed nuclear military activities > non-application of safeguards to nuclear material to be used in non-peaceful activities > NPT foresees exclusively peaceful uses of nuclear energy > on what basis can it be claimed that naval nuclear propulsion technology is possible outside of safeguards?

Tariq Rauf 01/06/2023

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Questions: NPT, INFCIRC/153

20 Aug 1987: Secretariat letter addressed to me:

Tariq Rauf 01/06/2023

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Questions: NPT, INFCIRC/153

20 Aug 1987: Secretariat letter addressed to me:

- The undertakings made by NNWS parties to the Treaty prohibit the use by NNWS of nuclear material for nuclear weapons or other nuclear explosive devices. They do not explicitly exclude or include the possibility of NNWS parties to the Treaty making use of nuclear material for other non-proscribed military purposes
- How may one interpret this IAEA statement?

Tariq Rauf 01/06/2023

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Questions: NPT, INFCIRC/153

20 Aug 1987: Secretariat letter addressed to me:

- To the Secretariat's knowledge there is no formal definition of 'non-proscribed military activity'. We understand that at the time of preparing INFCIRC/153 naval propulsion was commonly considered the most likely use. We also understand that most, if not all, participants in the Committee which prepared INFCIRC/153 favoured a narrow construction of the term 'non-proscribed military activity', and that processes such as enrichment or reprocessing to produce materials for use in such an activity would not themselves be considered as non-proscribed military uses and would therefore be subject to safeguards in the NNWS concerned".
- How may one interpret this IAEA statement?

Tariq Rauf 01/06/2023

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Questions: NPT, INFCIRC/153

- Is INFCIRC/153 paragraph 14 inconsistent with the NPT?
- Should not this matter be considered at the NPT PrepCom in August this year to seek the views of NPT States parties?
- Are the derestricted ORs of proceedings of Committee 24 clear regarding non-proscribed military activities > meaning, definitions, specific activities > should not the Board / Secretariat now derestrict the entire records of Committee 24 > which now are more than 50 years old and make available on iaea.org?
- What is the specific authoritative record that para.14 concerns non-proscribed military activities? What are the working papers and background documents concerning this matter?

Tariq Rauf 01/06/2023

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Questions: NPT, INFCIRC/153

- Why not derestrict materials regarding Canada's request for para.14 exemption during 1988-1990 (excluding commercially relevant information such as costs)?
- Did Committee 22 (Safeguards Committee) exceed its mandate in drafting and including para. 14 in INFCIRC/153 as non-application of safeguards is not mentioned in Article III.1 of the NPT?

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Questions: NPT, INFCIRC/153

- While NPT Article III.1 obliges NNWS to "accept safeguards in accordance with the Statute of the IAEA and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices" > there is no provision in the IAEA Statute to exempt nuclear material from safeguards in "non-proscribed nuclear military activities" and how can the NPT States parties be assured that such an exemption from safeguards will not lead to diversion of unsafeguarded nuclear material in non-proscribed nuclear military activities to nuclear weapons or other nuclear explosive devices?

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Questions: NPT, INFCIRC/153

- Should not have Committee 22 (Safeguards Committee) sought the advice and consent of NPT States parties on INFCIRC/153 fulfilling the requirements of NPT Article III and have sought their views on para. 14?
- NPT States parties made no reference to INFCIRC/153 in relation to it at review conferences until 2000?
- The sovereign of the NPT is its States parties, should not they be asked for their views on para. 14 and its implications for the Treaty?
- Is INFCIRC/153 para. 14 ultra vires as regards the NPT?
- Does the IAEA Secretariat have the authority or mandate to interpret the provisions of the NPT?

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Questions: NPTRC 2020(2022)

- WP.77 (para 36): The Conference notes that the topic of naval nuclear propulsion is of interest to the States Parties to the Treaty. The Conference also notes the importance of transparent and open dialogue on this topic. The Conference further notes that non-nuclear-weapon States that pursue naval nuclear propulsion should engage with IAEA in an open and transparent manner > Should this be followed up at the PrepCom in August, and in what manner? And, at the Agency?

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Notate bene

4) The usual practice at the Agency in drafting and interpreting its fundamental obligatory and guidance documents is through open-ended consultations involving all Member States. Examples (following slides re 2020 Commission and MNAs):

- Committee 22 (1970-1972) for INFCIRC/153 Corr.
- Committee 24 (1993-1995) for 93+2 and INFCIRC/540
- MNA Expert Group (2004-2005) for INFCIRC/640
- Amendment or Rescission of SQPs (2005)
- Committee 25 on safeguards (2005-2006)
- CPPNM Amendment (2006)
- Technical meetings (ongoing)

Tariq Rauf: 01/06/2023 23

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REPORT OF THE SENIOR EXPERT GROUP FOR THE REVIEW OF THE IAEA'S PROGRAMME OF ACTIVITIES

Tariq Rauf

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REPORT OF THE COMMISSION OF EMINENT PERSONS ON THE FUTURE OF THE AGENCY

Commission members

Anwarwan (Huzar Ahmad) (Singapore) - Former Minister of Foreign Affairs, Singapore; Member of the Board of Governors of the IAEA

Lajos Bokros (Hungary) - Professor of Economics and Public Policy, and Chief Operating Officer of the Central European University, Budapest, Hungary

Liabakar Bakhari (Uganda) - Visiting Scholar at the Institute for Advanced Study, Princeton, former UN Under-Secretary-General, Special Adviser to the Secretary-General, and Chair of the UN Panel on Peace Operations

Dr. Manojprakash Chakrabartty (India) - Principal Scientific Adviser to the Government of India, and Director, Institute for Plasma Research, Chairman of the Atomic Energy Commission, former Director of the Institute for Plasma Research

Professor Leenders (Dutch) - President of the Foreign Affairs Committee of the Dutch Senate

Georgios Kostas (Greece) - President and Chief Executive Officer, International Union Group, former Australian Foreign Minister, former Minister for Science and Energy

Leonor Prochaska (Canada) - Distinguished Fellow, The Centre for International Governance Innovation, former Deputy Minister and former UN Deputy Secretary-General

Ann Leary (France) - Chief Executive Officer of ABBVA

Madame Mahabadi (Singapore) - Dean, Professor in the Practice of Public Policy, Lee Kuan Yew School of Public Policy, National University of Singapore, former Ambassador to the UN, and former President of the UN Security Council

Anwarwan Ruzhika (Indonesia) - President of the National Education Administration Agency of Brazil, former Permanent Representative of Brazil to the UN, former Minister of Science and Technology, Brazil

Anwarwan Ples Yachson (Israel) - former Minister of Science, Technology, and Higher Education, and Minister of Education, former Deputy of Knesset

Professor Nara (India) - Co-Chairman and Chief Executive Officer of the Nuclear Three Mile Island, former Chief of India's Atomic Energy Commission

Anwarwan Karl Theodor Puschke (Germany) - former UN Under-Secretary-General for Humanitarian Affairs, former Permanent Representative of the Federal Republic of Germany to the IAEA, Dr. Wolfgang Schmidt (Austria) - former Federal Chancellor of Austria, leader of the Parliamentary Group of the Austrian People's Party

Anwarwan Eranga (Sri Lanka) - President of the Russian Research Centre, Kuvshinov, Academician and Secretary of the Russian Academy of Sciences

Professor Wang (China) - Secretary, Chairman of Tsinghua University Council, Member of Chinese Academy of Sciences, former President of Tsinghua University, Director of the Institute of Nuclear Energy Technology (INET) of Tsinghua University

Dr. Shirokita Yoshikazu (Japan) - President of the National Institute of Advanced Industrial Science and Technology, former former President of the University of Tokyo

Ernesto Zedillo, Chair (Mexico) - Director of the Yale Center for the Study of Globalization, former President of Mexico

IAEA Board of Governors General Conference

Report of the Commission of Eminent Persons on the Future of the Agency

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REPORT OF THE COMMISSION OF EMINENT PERSONS ON THE FUTURE OF THE AGENCY

A Secure Nuclear Future
By Tariq Rauf and Joryana Vovchok

Several mechanisms are under consideration to guarantee assurances of supply of nuclear fuel to States.

Fuel for Thought
by Tariq Rauf and Joryana Vovchok

A multilateral approach to the nuclear fuel cycle would help cope with the projected expansion of nuclear power use and strengthen the nuclear non-proliferation regime.

The line between the peaceful and the military uses of nuclear energy is becoming increasingly blurred. It is essential to ensure that nuclear energy is used responsibly under the highest standards for non-proliferation, security and safety.

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Multilateral Approaches to the Nuclear Fuel Cycle
Expert Group Report to the Director General of the IAEA (2005)

Participants and Contributors

Support Group members	Participants and Contributors
<ul style="list-style-type: none"> Benin: Abdou Ndiaye Brazil: Luiz Carlos de Oliveira Canada: Robert G. Brown China: Wang Kang France: Jean-Claude Gaudin Germany: Hans-Joachim Lauth India: Anwarwan Ples Yachson Indonesia: Anwarwan Ruzhika Japan: Shirokita Yoshikazu South Korea: Kim Yong-un United Kingdom: David H. Bell United States: Robert G. Brown Uzbekistan: Anwarwan Ples Yachson World Council: IAEA Working Paper: IAEA 	<ul style="list-style-type: none"> Canada: John R. G. Brown China: Wang Kang France: Jean-Claude Gaudin Germany: Hans-Joachim Lauth India: Anwarwan Ples Yachson Indonesia: Anwarwan Ruzhika Japan: Shirokita Yoshikazu South Korea: Kim Yong-un United Kingdom: David H. Bell United States: Robert G. Brown Uzbekistan: Anwarwan Ples Yachson World Council: IAEA Working Paper: IAEA

Tariq Rauf

01/06/2023

BRIEFING FOR MEMBER STATES

Multilateral Approaches to the Nuclear Fuel Cycle and other proposals

Tariq Rauf
Head, Verification and Security Policy Coordination
(Scientific Secretary of the Expert Group on Multilateral Nuclear Approaches (EMA) and of the IAEA General Conferences (Special Event):
New Framework for the Utilization of Nuclear Energy in the 21st Century: Assurance of Supply and Non-Proliferation)

Vienna, 6 February 2007

Tariq Rauf

01/06/2023

Assurance of Supply
GOV/2009/30 and GOV/2009/31

Tariq Rauf
Head, Verification and Security Policy Coordination
Office of External Relations and Policy Coordination
Informal Technical Briefing
Vienna, 29 May 2009

BRIEFING FOR MEMBER STATES

This is an informal technical briefing on the reports of the Director General GOV/2009/30 and GOV/2009/31

Tariq Rauf

01/06/2023

IAEA Board of Governors

Possible New Framework for the Utilization of Nuclear Energy: Options for Assurance of Supply of Nuclear Fuel

Report by the Director General

- Following the September 2004 Special Event on Assurance of Supply and Assurance of Non-Proliferation, held during the 10th regular session of the General Conference, the Director General indicated at the November 2006 meeting of the Board of Governors that the Director would prepare a report for the information of Member States outlining possible approaches for assurance of supply of nuclear fuel.
- This report provides background information including the evolution of proposals received by the Director to date concerning assurance of supply and international nuclear fuel centres, and describes some concrete options for assurance of supply of nuclear fuel and fuel fabrication services and how possible criteria for assurance of supply. In addition, the report provides a commentary concerning possible international nuclear fuel centres and requires close further work. The annex to the report contains an outline of the relevant provisions of the IAEA Statute, describes the current international nuclear fuel market, provides an analysis of some concrete issues within the proposals that have been received and incorporates copies of these proposals for ease of reference.

Tariq Rauf

01/06/2023




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2009 Point 5
28 January 2009

Note by the Secretariat

Assurance of Supply

Information from the IAEA Secretariat
with respect to the comments and questions of Member States

A. Introduction


1. Proposals on assurance of supply made or suggested by Member States have been under discussion in the IAEA context for several years. The Secretariat provided an informal technical briefing to Member States on two such proposals on 28 May 2007. The Board of Governors discussed these proposals in its meetings held on 16 June 2008 – the summary records of which are available in documents GC/INF/1242 and 1243. In the discussion at the meetings of the Board of Governors on June, September and November 2007 on the various proposals on assurance of supply of 2007,

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Questions: Open-ended consultations




- INFCIRC/153 relates to the NPT and is a universal standard for all NNWS: can individual States unilaterally with Secretariat cooperation implement provisions the meaning and application of which are not clear (for example, INFCIRC/153 para.14?
- If so, how should this be done: exclusively involving concerned State(s) and the Secretariat – transparency, accountability?
- Do all CSA States have an interest or right to be transparently informed and involved in non-case specific consultations on the generic technical and legal aspects of para.14 implementation?

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Questions: Open-ended consultations




- Is interpretation of para.14 within the exclusive jurisdiction of the Secretariat and the Board?
- What is the role and responsibility of NPT States parties in this regard?

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Questions: Role of the Board




- What is the role of the Board regarding matters of interpretation of application of safeguards?
- Why has the Board not taken a leading role regarding developing policy and technical understandings regarding INFCIRC/153 para. 14 implementation?
- Does the Board have the technical and legal competence to adequately address the implications of para. 14 (CSA)?

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Questions: Role of the Board



Statute Article VII.B

The **Director General** shall be responsible for the appointment, organization, and functioning of the staff and **shall be under the authority of and subject to the control of the Board of Governors. He shall perform his duties in accordance with regulations adopted by the Board**


- Why has the Board not requested the Secretariat for technical briefings on safeguards approaches and technical objectives for naval nuclear propulsion?

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Questions: Role of the Board and Technical



- Why has not the Board requested SAGSI for a technical report on implementation of para.14? Does SAGSI have the technical competence?
- Why has not the Board requested the DG to set up an international panel of experts to assess matters pertaining to non-proscribed nuclear military activities and naval nuclear propulsion and make policy and technical recommendations regarding safeguards on NPNRs?
- Regarding the **non-proliferation standard** for non-proscribed nuclear military activities (naval nuclear propulsion) > that standard can only be complete transparency and full application of safeguards?

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Questions: Role of the Board

"Trust but verify": Intentions cannot be verified, only materials and facilities

- The Agency cannot assure against change of intentions by a State regarding its nuclear fuel cycle > what extra burden on safeguards might this entail regarding naval nuclear propulsion?
- What could be a credible "diversion path analysis"?
- What could be a credible safeguards approach and related technical objectives for naval nuclear propulsion?
- What are the implications for the State Level Approach (SLA) for a State pursuing naval nuclear propulsion?

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Questions: Technical

- Enrichment and reprocessing cannot be exempted from safeguards under para.14: hence the Agency should be able to verify the quantity and isotopic composition of LEU/HEU to be exempted from safeguards under para.14?
- Para. 14 requires information to be provided on the quantity and isotopic composition of the nuclear material subject to non-application of safeguards: how will the Agency ensure receipt of the information and physical inventory verification (PIV)?
- Naval propulsion nuclear reactors (NPNRs) essentially are essentially small or medium size reactors the characteristics of which are well known including that of reactor physics: what makes NPNRs different from other types of SMRs for safeguards purposes?
- NPNRs in common with SMRs generate steam to run generators to generate electricity > this function of NPNRs should be safeguardable?

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Questions: Technical

- One difference between NPNRs and SMRs is that power generated by NPNRs drive ships and submarines > the classified components then are the platforms not the power source?
- The rough isotopic composition of NPNRs is referred to in unclassified literature is LEU below LEU 19% U235 and HEU up to 97.3% U235 > specific information in this regard needs to be provided to the IAEA in accordance with para.14 > how can the Agency ensure this?

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Questions: Technical

CSA: INFCIRC/153: implementation of para.14

- How will this impact on the Safeguards Conclusion for the State concerned?
- Is nuclear material exempted under para.14 "declared" or "undeclared" or "exempted" or ... ?
- Or previously declared in one quantity / isotopic level(s) but then "undeclared" after moving out of safeguards?
- How can "non-diversion" be verified?

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Questions: Technical

AP: INFCIRC/540: implementation of para.14 CSA

Only in countries with both a CSA and an AP in force with sufficient information and access can the Agency provide credible assurances of both the non-diversion of declared nuclear material from peaceful nuclear activities and the absence of undeclared nuclear material and activities

- How will this impact on the Broader Safeguards Conclusion for the State concerned?

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Questions: Technical

AP: INFCIRC/540: implementation of para.14 CSA

- Will the Agency have to give a "qualified" safeguards conclusion?
- What would be credibility and efficacy of such a "qualified conclusion"?

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Questions: Technical

CSA + AP: implementation re para.14 CSA

- How will Agency address and investigate open source and third-party information regarding (possible) diversion of nuclear material exempted under para.14?
- And, in this context seek to discover related clandestine or undeclared activities?
- What remedies would be available to the Secretariat and Board?

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Questions: Technical

- 20 Aug 1987: Secretariat letter addressed to me:
- INFCIRC/153 is intended to provide for the application of safeguards to enable non-nuclear-weapon States (NNWS) parties to the NPT to implement their undertaking made in Article III.1 of the NPT to conclude with the Agency safeguards agreements for the "exclusive purpose of verification of the fulfilment of its (the State's) obligations assumed under this Treaty (NPT) with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices". **The undertakings made by NNWS parties to the Treaty prohibit the use by NNWS of nuclear material for nuclear weapons or other nuclear explosive devices. They do not explicitly exclude or include the possibility of NNWS parties to the Treaty making use of nuclear material for other non-proscribed military purposes >> what does this imply?**

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Questions: Technical

- 20 Aug 1987: Secretariat letter addressed to me:
- The undertakings made by NNWS parties to the Treaty prohibit the use by NNWS of nuclear material for nuclear weapons or other nuclear explosive devices. **They do not explicitly exclude or include the possibility of NNWS parties to the Treaty making use of nuclear material for other non-proscribed military purposes**
- Thus, INFCIRC/153 **does not exclude/include** making use of nuclear material for naval nuclear propulsion! > why has the Secretariat stated that INFCIRC/153 foresees nuclear material use in non-proscribed military activities = naval nuclear propulsion?

Tariq Rauf 01/06/2023

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Questions: Technical:

20 Aug 1987: Secretariat letter addressed to me:

- To the Secretariat's knowledge **there is no formal definition of "non-proscribed military activity"**. We understand that at the time of preparing INFCIRC/153 *naval propulsion* was commonly considered the *most likely use*. We also understand that most, if not all, participants in the Committee which prepared INFCIRC/153 favoured a narrow construction of the term "non-proscribed military activity", and that processes such as **enrichment or reprocessing to produce materials for use in such an activity would not themselves be considered as non-proscribed military uses and would therefore be subject to safeguards in the NNWS concerned >> who should address definitions regarding para.14?**

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Questions: Technical:

20 Aug 1987: Secretariat letter addressed to me:

"To the Secretariat's knowledge **there is no formal definition of "non-proscribed military activity"**..."

A definition for the consideration and approval of the Board should be developed by whom?

- Secretariat?
- Member States with support of Secretariat?
- SAGSI?
- International panel of experts?
- States seeking to implement para. 14?

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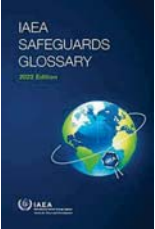
Notate bene

5) The Safeguards Glossary issued in 2022 has a revised description of INFCIRC/153 Corr. para.14 on "Non-application of safeguards to nuclear material to be used in non-peaceful activities" as compared to the 2001 edition > see following slides.

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Naval Nuclear Propulsion: NPT and IAEA Safeguards




2.15. Non-application of safeguards to nuclear material to be used in non-peaceful activities. The use of nuclear material in a non-proscribed military activity which does not require the application of IAEA safeguards. More specifically, this refers to the use by a State with a comprehensive safeguards agreement (CSA) as envisaged in para. 14 of [153] of nuclear material in a nuclear activity which does not require the application of IAEA safeguards (e.g. a non-proscribed military activity such as naval nuclear propulsion). ... the IAEA and the State are required to make an arrangement, as provided for in para. 14(b) and 14(c) of [153], so that only while the nuclear material is in such an activity, the safeguards provided for in [153] will not be applied. Such an arrangement shall identify, to the extent possible, the period or circumstances during which safeguards will not be applied. **Any arrangement pursuant to para. 14 of [153] will be reported to the IAEA Board of Governors**

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Naval Nuclear Propulsion: NPT and IAEA Safeguards



2.14. Non-application of IAEA safeguards — refers to the use of nuclear material in a non-proscribed military activity which does not require the application of IAEA safeguards. Nuclear material covered by a comprehensive safeguards agreement may be withdrawn from IAEA safeguards should the State decide to use it for such purposes, e.g. for the propulsion of naval vessels. Paragraph 14 of [153] specifies the arrangements to be made between the State and the IAEA with respect to the period and circumstances during which safeguards will not be applied. **Any such arrangement would be submitted to the IAEA Board of Governors for prior approval**

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Questions: IAEA Safeguards Glossary 2022 and 2001

- What is the explanation for the change of explanation regarding para.14 in the 2022 edition compared to the 2001 edition?
- What is meant by "report to the Board" in the 2022 edition?
- Is this just a routine report for information with no requested action(s)?
- Or, will the Board be expected to "consider" or "review" or "approve" any arrangement(s) or procedure(s) pertaining to the non-application of safeguards pursuant to para.14?

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Notate bene

6) **GOV/INF/347 (3 July 1978):**

- Australia notes that a State implementing para.14 would need to inform the Agency (Board through the Secretariat) and the State **"would be required to 'make clean' the matter referred to in para.14(1) and para. 14(2)"** and further that **"the 'arrangement' referred to in para.14(b) would be referred to the Board and... would require its approval..."**
- The Director General's response states that "as far as the Secretariat of the Agency is concerned, **the understanding of the Australian authorities is correct** and, in particular, **...your letter correctly describes the procedures that the Secretariat would follow...**"

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GOV/INF/347 (3 July 1978):

B

International Atomic Energy Agency
BOARD OF GOVERNORS
For official use only

GOV/INF/347 (3 July 1978):

"...the 'arrangement' referred to in para.14(b) would be referred to the Board and would require its approval ..."

"...any arrangement...must be reported to the Board ... it would be for the Board in each case to take appropriate action..."

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GOV/INF/347
page 2

GOV/INF/347
page 3

Letter addressed to the Resident Representative of Australia by the Director General

"In essence, the Australian authorities wish to confirm that the Secretariat shares their understanding that paragraph 14 would operate to ensure that use by a State of nuclear material in a non-peaceful military activity would be a matter which would be brought before the Board of Governors of the Agency for its consideration. Assurance on this point is required in the Australian Government's policy on the safeguards to apply to future exports of Australian uranium.

"In effect, it is the understanding of the Australian authorities that:

- If a State were to use any nuclear material which is required to be safeguarded (that is, all source or special fissionable material referred to in paragraph 2 of INF/347) (concluded) in any non-peaceful (that is, non-military) military activity it would be under an obligation to follow the procedure laid down in paragraph 14.
- In this case, the Agency (acting in practice the Board of Governors through the Secretariat) — see IAEA Statute, Article VI, 2 and VII, 4 and 5) would be informed and it would be the Board of Governors that the State would be required to "make clean" the matter referred to in paragraph 14(1) and 14(2) of INF/347 (concluded).
- Similarly, the "arrangement" referred to in paragraph 14(b) would be referred to the Board of Governors and would require the approval of the Board.
- In the event of a State not following the prescribed procedure, this would constitute a breach of the safeguards agreement with the Agency and any such breach would be reported to the Board of Governors.

"The intent of the Australian authorities is to be grateful for your confirmation of the above and any additional comments the Secretariat may wish to make on the operation of paragraph 14."

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GOV/INF/347 (3 July 1978): Questions

- In its letter Australia clearly stated that “the ‘arrangement’ referred to in para.14(b) would be referred to the Board and... would require its approval...” > was this conclusion by Australia the basis for the formulation used in the 2001 Safeguards Glossary in section 2.14. Non-application of IAEA safeguards?
- As the Director General acknowledged that Australia’s assertion that “the ‘arrangement’ referred to in para.14(b) would be referred to the Board and... would require its approval...” the logical conclusion would be that para.14 arrangement(s)/procedure(s) require approval by the Board?

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GOV/INF/347 (3 July 1978): Questions

- As the Director General acknowledged Australia’s assertion that “the ‘arrangement’ referred to in para.14(b) would be referred to the Board and... would require its approval...” the logical conclusion would be that para.14 arrangement(s)/procedure(s) require approval by the Board?
- Why then has the Secretariat modified the explanation in the 2022 edition of the Safeguards Glossary to “report” rather than the “approval” of the Board?
- Was the Director General correct in his assessment in GOV/INF/347 or is the Secretariat correct in the 2022 Safeguards Glossary?
- The explanation by OLA that it never reviewed the 2001 Safeguards Glossary seems inadequate in light of the Director General’s stated views in 1978?

Tariq Rauf 01/06/2023

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Global challenges

- Covert nuclear trade networks
- New technologies
- Concerns regarding future of the non-proliferation regime
 - Naval nuclear propulsion and IAEA safeguards
- Large stocks of weapon-usable nuclear material outside international monitoring

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Significant Quantity Nuclear Material for a Warhead:
 25kg/< HEU; 8kg/< Pu

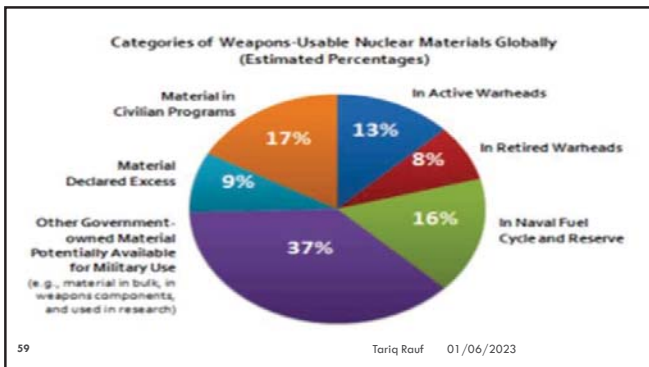
The amount of HEU needed to build a nuclear weapon could fit in a 5lb bag of sugar.

The amount of weapons-grade plutonium needed to build a bomb is roughly the size of a grapefruit.

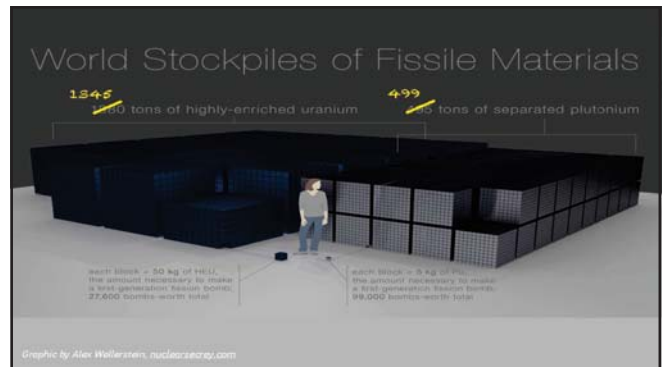
US Department of Energy

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Questions: Technical 

- It is estimated that presently some 1,499 tonnes (1,499,000 kg) of HEU and some 499 tonnes (500,000 kg) of Plutonium in military nuclear fuel cycles remain completely outside any international accounting, monitoring or verification > how can the Agency justify the "non-application of safeguards" in NPT NNWS of up to or in excess of 2 tonnes (2000 kg) of weapon-grade HEU (93%-97.3% U235) in naval nuclear propulsion programmes?
- (Recall that for safeguards purposes 1 SQ = 25 kg HEU, 8 kg Pu, Safeguards Glossary 2022, p.31)

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▪ Nuclear Submarines Acquisition Programmes in NPT NNWS

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Australia, UK and US Trilateral Agreement (AUKUS)




➤ **15 September 2021:** Australia, UK and US trilateral agreement > will facilitate the sharing of information in a number of technological areas, including artificial intelligence, underwater systems, and long-range-strike, cyber- and quantum capabilities, and nuclear-powered submarines to counter China and for "ensuring peace and stability in the Indo-Pacific [region] over the long term"

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Australia, UK and US Trilateral Agreement (AUKUS)

- **22 November 2021:** The Exchange of Naval Nuclear Propulsion Information Agreement > to provide Australia with a fleet of at least eight nuclear-powered submarines
- The agreement is subject to approval by the US Congress under Section 123 of the 1954 Atomic Energy Act, which regulates US nuclear trade, and to a UK parliamentary review > Section 123 establishes conditions and outlines the process for major nuclear cooperation between the United States and other countries
- **1 December 2021:** White House to Congress > "The agreement would permit the three parties to communicate and exchange naval nuclear propulsion information and would provide authorization to share certain restricted data as may be needed during trilateral discussions, thereby enabling full and effective consultations"

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Australia, UK and US Trilateral Agreement (AUKUS)

➤ **13 March 2023: Joint Leaders Statement on AUKUS (San Diego)**

- supply of three Virginia-class conventionally-armed nuclear-powered submarines (SSNs) to Australia by the early 2030s with the option to supply two additional boats
- in the late 2030s, the UK will deliver its first SSN-AUKUS to the Royal Navy >> Australia will deliver the first SSN-AUKUS built in Australia to the Royal Australian Navy in the early 2040s
- SSN-AUKUS: "a trilaterally-developed submarine based on the UK's next-generation design that incorporates technology from all three nations, including cutting edge US submarine technologies to be built in each of the three countries over the next two- to three-decades"

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Australia, UK and US Trilateral Agreement (AUKUS)

➤ **13 March 2023: Joint Leaders Statement on AUKUS (San Diego)**

- "When we announced the AUKUS partnership in September 2021, we committed to set the highest nuclear non-proliferation standard
- the plan we announce today delivers on this commitment and reflects our longstanding leadership in, and respect for, the global nuclear non-proliferation regime
- we continue to consult with the International Atomic Energy Agency to develop a non-proliferation approach that sets the strongest precedent for the acquisition of a nuclear-powered submarine capability"

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AUKUS Nuclear-Powered Submarines: NPT and IAEA Safeguards

- Key issue: exemption from safeguards of HEU/(LEU) used for nuclear submarine fuel under INFCIRC/153 (Corr.) para. 14
- US Virginia-class SSN (S9G NPNR)
- UK Astute-class SSN: ship propulsion reactor (S5G) licensed for production and use by the UK from the USA
- US legislation and US-UK nuclear cooperation agreement does not allow retransfer or supply to third country, without specific prior permission from the US Congress
- Quantity + Isotopic composition of HEU-fuel, fabrication information, etc. remain highly classified: 97.3% HEU /200 kg per submarine
- Requirement for exemption of HEU-fuel from safeguards on the grounds of protection of classified information

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Brazil Nuclear-Powered Submarine Programme

- 1970s: Submarine Development Programme - PROSUB is one of the main strategic projects of the Brazilian Armed Forces and aims to increase the national defence infrastructure and ensure Brazilian maritime sovereignty
- December 2008: Brazil purchased four *Scorpène*-class conventionally-powered submarines from France > Brazil's goal is to build the first nuclear submarine in the Southern Hemisphere > nuclear submarines are currently operated by China, France, Russia, UK and US > Brazil has partnered with France to develop its own nuclear-powered attack submarine > *Alvaro Alberto*
- 2018: after many years delay and a series of problems, the prototype of the naval nuclear propulsion reactor: Brazilian Multipurpose Reactor or LABGENE was launched by Nuclebrás
- 2022 June: Brazil starts discussions with IAEA on its nuclear-powered submarine acquisition programme – exemption from safeguards



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Brazil Nuclear-Powered Submarine Programme

- IAEA safeguards are applied in Brazil pursuant to the 1991 Agreement between the Republic of Argentina, the Federative Republic of Brazil, the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials and the International Atomic Energy Agency for the Application of Safeguards, Quadripartite Agreement, reproduced in IAEA INFCIRC/435 which also serves since 30 July 1999 as Brazil's safeguards agreement under the NPT (IAEA INFCIRC/435/Mod.3 dated 2 March 2000)

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Brazil Nuclear-Powered Submarine Programme

- Under Article III of the Argentina-Brazil "Agreement on the Exclusively Peaceful Utilization of Nuclear Energy", IAEA INFCIRC/395, "None of the provisions of the present Agreement shall limit the right of the Parties to use nuclear energy for the propulsion of any type of vehicle, including submarines, since propulsion is a peaceful application of nuclear energy"

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Brazil Nuclear-Powered Submarine Programme

- Whereas Article 13 of the Quadripartite Agreement, partly mirrors Article 14 of the standard INFCIRC/153/Corr., and provides for "special procedures" for "a State Party ... to exercise its discretion to use nuclear material which is required to be safeguarded under this Agreement for nuclear propulsion or operation of any vehicle, including submarines and prototypes, or in such other non-proscribed nuclear activity as agreed between the State Party and the Agency"

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil submitted to the IAEA its initial proposal for special procedures to be applied to nuclear material used in naval nuclear propulsion, pursuant to Article 13 of the Quadripartite Agreement
 - "Nothing in the NPT precludes the use of nuclear energy for such purposes, which are fully consistent with the IAEA safeguards regime ... in pursuing the legitimate goal of naval nuclear propulsion, Brazil is committed to transparency and open engagement with the IAEA and ABACC, ensuring their ability to fulfil their non-proliferation mandates"

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil:
 - “Similarly to bilateral comprehensive IAEA safeguards agreements based on INFCIRC/153, the **Quadripartite Agreement envisages the possibility of using nuclear material in certain non-proscribed military activities, including nuclear propulsion** ... in this case, as specifically indicated in its Article 13, **special procedures regarding the application of safeguards to nuclear material will apply** while the nuclear material is used for nuclear propulsion in submarines and prototypes”

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil:
 - “A long-standing objective pursued by Brazil for many decades, the development of **nuclear propulsion is a fully indigenous and autonomous project** ... the submarine, its nuclear reactor and fuel are being designed, developed, built and assembled in Brazil. It will be a nuclear-powered, conventionally armed vessel ... its reactor will use low-enriched uranium (LEU)
 - All nuclear facilities of the Brazilian Navy are subject to safeguards under the Quadripartite Agreement and will remain so”

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil:
 - “consultation process underway between Brazil and the IAEA will ensure that such special procedures will be sufficient to enable the Agency to draw the relevant safeguards conclusion on the non-diversion of nuclear material, while **protecting sensitive technological and operational parameters related to the nuclear-powered submarine**
 - ABACC’s role in the implementation of special procedures will include keeping **records of the total quantity and composition of nuclear material used in nuclear naval propulsion**”

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil:
 - While nuclear installations operated by the Navy on land will continue to be licensed and supervised by ANSN [National Authority for Nuclear Security], including the prototype on land of the **nuclear reactor** to propel the submarine, the onboard nuclear plants will be **licensed by Naval Agency for Nuclear Safety and Quality (AgNSNQ)** ... The nuclear reactor on the submarine will therefore undergo a **double licensing process**: its prototype, **by ANSN**; and the onboard plant, **by AgNSNQ**”

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Brazil Nuclear-Powered Submarine Programme

- May 2022, Brazil:
 - This **double licensing makes the Brazilian case unique in the world** ... in other countries with naval propulsion capabilities, the licensing of both land-based prototypes and submarines is carried out exclusively by the respective military regulatory bodies”

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- IAEA Statements

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Nuclear-Powered Submarines: IAEA Director General

Washington, 14 March 2023: *"We have to check before it [the SSN] goes in the water and when it comes back ... this requires highly sophisticated technical methods because there will be welded units, [but] our inspectors will want to know what is inside and whether, when the boat comes back to port, everything is there and there has not been any loss ... it's the first time something like this will be done ... **we are going to be very demanding on what they are planning to do ... so, the process starts now ... and the proof of the pudding is in the tasting ... We are going to put together a solid, watertight system to try to have all the guarantees ... if we cannot do that, we would never agree"** [emphasis added]*

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Nuclear-Powered Submarines: IAEA Director General

Vienna, 14 March 2023: *"This process involves serious legal and complex technical matters. **The required arrangement under Article 14 of the CSA and the development of the necessary safeguards approach must be in strict conformity with the existing legal framework. Importantly, once that the arrangement is finalized, it will be transmitted to the Board of Governors of the IAEA for appropriate action...**"*

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Nuclear-Powered Submarines: IAEA Director General

Vienna, 14 March 2023: *"The Agency's role in this process is foreseen in the existing legal framework and falls strictly within its statutory competences. **The Agency will conduct the work on this matter in an independent, impartial, and professional manner. I will ensure a transparent process that will be solely guided by the Agency's statutory mandate and the safeguards agreements and additional protocols of the AUKUS Parties. An effective arrangement under Article 14 of Australia's CSA to enable the Agency to meet its technical safeguards objectives for Australia under the CSA and AP will be necessary. Ultimately, the Agency must ensure that no proliferation risks will emanate from this project...**"*

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Board of Governors
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The Safeguards Implementation Report for 2022

Report by the Director General

01/06/2023

SIR 2022 (9 May 2023)

II. Naval Nuclear Propulsion

207. The use of nuclear material subject to safeguards under a CSA by a State in a nuclear activity such as naval nuclear propulsion is foreseen by the CSA. Two States¹ with CSAs in force have informed the Agency of their plans related to the use of nuclear material – subject to safeguards under their respective CSAs – for naval nuclear propulsion. The use of nuclear material in such an activity requires arrangements under their respective safeguards agreements and the development of appropriate Agency safeguards approaches. Hence, during 2022, the Secretariat engaged in consultations with the States concerned to consider the possible implications on the application of Agency safeguards. Likewise, during the year, the Director General kept the Board of Governors informed of relevant developments on the matter through his introductory statements at the Board's quarterly meetings.

208. On 19 September 2022, Australia, the United Kingdom and the United States of America informed the Director General about their decision to initiate a related effort of 18 months to "identify the optimal pathway to support Australia's acquisition of a conventionally armed, nuclear-powered submarine for the Royal Australian Navy" (AUKUS). Since then, the Agency has engaged, and held technical consultation with, the States concerned to discuss the possible implications of **naval nuclear propulsion under CSAs on the implementation of Agency safeguards**. In 2022, the Director General submitted a report to the Board of Governors entitled *SIR 2022* regarding its mission in JF(22) (GUV/138/2022/20).

209. In May 2022, the Agency provided to the Agency a "Proposal of safeguards special procedures for the nuclear material for use in naval propulsion propulsion and in the conventionally armed, nuclear-powered submarine" in accordance with the provisions contained in Article 13 of the Qualitative Safeguards Agreement (QSA) (SIR/2022/14). Also in May 2022, representatives from the States in that presentation to the Agency on the concept of the proposal. Since then, the technical working group has been established to discuss the proposal, including the States' positions and comments on the proposal's structure, process, content and handling and how material for the naval nuclear propulsion propulsion

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- Proliferation of Nuclear-Powered General Purpose Submarines (SSNs)

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Proliferation of Nuclear-Powered and Nuclear-Armed Submarines

- 1988: USSR "lease" of Charlie-class SSN to India
- Russia "lease" of Akula-class SSN
- India reverse-engineers and copies USSR/Russia nuclear propulsion technology > product "Arihant" SSBN

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Proliferation of Nuclear-Powered and Nuclear-Armed Submarines

- Next in line??: RoK, Japan, Iran, Argentina, (Israel)...
- Risks: refitting of conventionally armed land-attack sea-launched cruise missiles (SLCM) on NNWS SSNs with nuclear warheads owned by NWS? > stationing of SLCM-N on SSNs of NPT NNWS under forward deployment arrangements such as for forward deployed nuclear weapons in five NATO NPT NNWS...??

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Conclusions

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Conclusions

- This presentation has outlined the significant challenges posed by the acquisition of nuclear-powered submarines by NPT NNWS to IAEA safeguards
- Thus far, the IAEA Secretariat and Board have deflected requests to convene open-ended consultations and technical briefings
- Thus far, the reporting by the Secretariat has not provided any specific information on safeguards approaches and technical objectives for safeguards relating to naval nuclear propulsion
- SIR 2022 reporting is inadequate and lacks the expected level of transparency

Tariq Rauf

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Conclusions

- This presentation has outlined the practice of the IAEA for open-ended consultations and technical briefings on important matters concerning safeguards and approaches to the nuclear fuel cycle [as well as nuclear safety and security] to encourage policy and technical inputs from Member States and experts to develop better understanding of the issues under consideration, as well as to develop broad support from Member States
- It clearly is in the interests of the Member States and the IAEA Secretariat to convene open-ended consultations and technical briefings on significant aspects of the implementation of INFCIRC/153 Corr. para.14, and implications for the efficacy and efficiency of the Agency's safeguards system

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Conclusions

- It needs to be clearly understood that matters concerning the interpretation and implementation of INFCIRC/153 Corr. para.14 are inherently policy and political matters concerning all IAEA Member States and NPT States parties with CSAs in force > this is not a matter of legal opinions, as legal opinions are just that "opinions" and can be challenged and refuted
- The Board of Governors, thus far, has failed to exercise its responsibility and obligation as regards the interpretation and implementation of INFCIRC/153 Corr. para.14 > **the Board must take a pro-active role and empower the Director General to show leadership on this matter (along the lines the DG has demonstrated exemplary leadership on the safety and security of ZNPP)**

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Conclusions

- Vienna, 14 March 2023:** The Director General stated, "This process involves serious legal and complex technical matters. The required arrangement under Article 14 of the CSA and the development of the necessary safeguards approach must be in strict conformity with the existing legal framework. Importantly, once that the arrangement is finalized, it will be transmitted to the Board of Governors of the IAEA for appropriate action..."
- **What is meant by "once that the arrangement is finalized, it will be transmitted to the Board of Governors of the IAEA for appropriate action"? Does this imply that prior approval will not be sought from the Board? If so, how does comport with GOV/INF/347?**

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Conclusions: Director General's Assurances

The Director General correctly has asserted on 14 March 2023 that for any States exercising para.14, the Agency will have to (my interpretation):

- the Agency will conduct the work on this matter in an independent, impartial, and professional manner ... will ensure a transparent process
- check the SSN before launch and after return to port
- utilize highly sophisticated technical methods because the naval nuclear propulsion reactors will be welded units
- ensure that Agency safeguards inspectors will know the fuel loading on launch and on return to port to ascertain that there has not been any diversion of nuclear fuel
- ensure inspectors will be very demanding, the proof will be in the safeguards methodology and practice [approach and technical objectives]
- ensure a solid, watertight system with required level of guarantees failing which the Agency will not agree to any arrangement for non-application of safeguards on non-proscribed nuclear military activities

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Readings

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Laura Rockwood

WORKSHOP ON AUKUS
18 May 2023

Thank you for this opportunity to join you today to address a matter of considerable importance. I am honoured to be able to contribute to this discussion.

At the outset, I feel it is important to address a number of fundamental issues in connection with submarines and safeguards that are currently on the minds of those having to consider the implications of such activities.

- Nuclear naval propulsion is not prohibited under the NPT. The only prohibitions under the NPT are nuclear weapons and nuclear explosive devices. The negotiators explicitly debated the issue and decided NOT to prohibit the use of NM for naval propulsion.
- Nor is the transfer of HEU prohibited under the NPT, regardless of its enrichment level. Indeed, highly enriched uranium has been regularly supplied as fuel for research reactors.
- And the conclusion of a para. 14 arrangement is not in violation of Art. 2 of the Agency's Statute, which provides that the Agency "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 application of safeguards does not constitute "assistance" as contemplated under the Agency's Statute. Moreover, as confirmed in a legal opinion issued during the negotiation of INFCIRC/153 (COM.22/4), the inclusion of a provision accommodating the non-application of SG to military naval propulsion is permitted under Article III.A.5 of the Statute.
- And while Australia's request to commence negotiations with the Agency on an Article 14 arrangement has generated some controversy, it is not unprecedented. Indeed, Canada submitted just such a request in 1988.

So we should put these arguments to rest and focus on more real and challenging issues.

The issue of nuclear naval propulsion as it relates to comprehensive safeguards agreements (CSAs) does indeed raise questions that warrant addressing. Your presence today as representatives of Member States of the Agency reflects the importance you and your governments attach to this matter.

Under the NPT, NNWSs party to the treaty agree not to acquire nuclear weapons and nuclear explosive devices, and the NWSs agree not to provide them. The negotiators of the treaty specifically decided not to prohibit non-explosive military uses of nuclear material, specifically nuclear naval propulsion.

Committee 22 was an open-ended committee of the Board established to negotiate what became INFCIRC/153 – the document that serves as the basis for all CSAs required for NPT NNWSs. The drafters negotiated a provision to ensure that the exclusion from safeguards of nuclear material for non-explosive military nuclear uses – if and when it were ever invoked – would not serve as a mechanism – a cover, if you will – for the diversion of nuclear material for nuclear weapons.

Paragraph 14 was the result of those deliberations. It is reflected in almost all CSAs concluded by the IAEA, with the paragraph numbers in INFCIRC/153 corresponding, by and large, to article numbers in the actual CSAs.

It is often referred to as “withdrawal” of nuclear material from safeguards to distinguish it from provisions related to the termination of safeguards on nuclear material or the exemption of nuclear material from certain provisions under the agreement. However, the title of this provision – “**non-application** of safeguards” – was explicitly formulated by the negotiators to underscore that the IAEA “should be consulted and satisfactory administrative arrangements reached concerning the use of any nuclear material for a military purpose permitted under [the NPT], **whether or not the material was initially under safeguards.**” It was explicitly stated that “The provision should **thus be applied to all material which was either actually under safeguards and to be withdrawn or which had never been placed under safeguards and which was intended to be used in a permitted nuclear activity.**”

Operation of this provision is not automatic, and it was certainly not intended as a blanket exemption of nuclear material, facilities or activities due to their military nature. But is it required? Yes. A State may not use nuclear material for a non-prohibited military nuclear activity without invoking paragraph 14 and concluding an arrangement with the IAEA. Paragraph 14 explicitly provides that, if the State intends to exercise its discretion to use nuclear material which is required to be safeguarded under the safeguards agreement in a nuclear activity which does not require the application of safeguards under the Agreement, the specified procedures **will apply**. The agreement is unambiguous on its face and supported by the negotiation history – I will revert to that point in just a moment.

Para. 14 requires the State to conclude an arrangement with the Agency:

- Para. 14 does not, on its face, require Board approval. The original proposal tabled by the Secretariat during Committee 22 would have required for Board approval; this was not accepted, and was followed by text that would have required approval by the Director General. Ultimately, the text agreed to simply called for the conclusion of the arrangement “with the Agency”.
- In response to an inquiry by Australia in 1978 exchange, the then Director General of the IAEA stated that any such arrangement would be provided to the Board for “appropriate action” (see the exchange of letters published in ...).
- There are arguments on both sides: On the one hand, some argue that such an arrangement would be similar to the Subsidiary Arrangements, which are not approved by the Board. Others contend that such an arrangement is distinguishable from Subsidiary Arrangements as the latter relate to the implementation of a safeguards agreement within parameters specifically laid down in agreements that have been approved by the Board. Ultimately, it is for the Board to decide on what the “appropriate action” may be.

Para. 14(a): State must make clear that:

- The nuclear material involved is not subject to a “no military use” undertaking, i.e. an undertaking in respect of which Agency safeguards apply that the nuclear material will be used only in a peaceful nuclear activity

- The material will not be used for production of nuclear weapons or nuclear explosive devices

Para. 14(b): content of the arrangement

- It must identify, to the extent possible, the period or circumstances during which safeguards will not be applied, and require that the Agency be informed of the total quantity and composition of the material in the State and upon export.
- It shall relate to “such matters as” the temporal and procedural provisions and reporting arrangements. Thus, this is not an exclusive list of what the arrangement should include.
- That the non-application of safeguards provided for under the CSA will only be while the nuclear material is in that activity, and that safeguards are to be reapplied as soon as the nuclear material is reintroduced into a peaceful nuclear activity.
- What is peaceful as opposed to non-peaceful? While there is no definition of either term, the negotiators agreed that the following activities were not inherently military and therefore **not entitled to exclusion**:
 - Activities such as transport and storage
 - Activities or processes that merely change chemical or isotopic composition (e.g. enrichment and reprocessing)
- At what point should the arrangement take effect? What activities could be excluded from safeguards? Clearly, this aspect of the arrangement will constitute a significant element of the negotiations. As Australia will not be engaged in enrichment or reprocessing of the reactor fuel, that could simplify the negotiation process. However, clarity would have to be had regarding when, in accordance with the terms of the CSA, the nuclear material in the reactor would have to be brought back under safeguards.
- Is it possible to apply some verification measures under the arrangement? Absolutely – if that were not the case, there would hardly have been a need for a paragraph 14. The provision calls for the non-application of safeguards under the safeguards agreement – but the arrangement is intended to build in guiderails to make sure the material and activities involved are not misused for prohibited purposes. It is important to note at this point that there is nothing in the Statute of the IAEA that limits the application of safeguards to peaceful nuclear activities.

Para. 14(c): the Agency’s agreement shall not involve approval, or classified knowledge of, the military activity or relate to the use of nuclear material therein.

- A key question will be how to get safeguards as close as possible to the submarine reactor without access to classified information, minimizing the time during which the material will not be subject to routine verification under the CSA.

What about the process? How should this arrangement be negotiated?

As to the actual negotiation of the arrangement, and suggestions that there is “normal or standard practice” of the IAEA in developing procedures and guidance on safeguards-related matters, it is important as well to note that the IAEA has in the past employed a variety of mechanisms. Among those mechanisms have been:

- Committees created by the Board of Governors: Committees 22 and 24 on the negotiation of 153 and 540, respectively, and Committee 25 established to consider further strengthening safeguards. While Committees 22 and 24 were successful, Committee 25 was wildly unsuccessful.
- Advisory groups appointed by the Director General: Standing Advisory Group on Safeguards Implementation (SAGSI)
- Technical working groups convened in collaboration with representatives of relevant technology holder States: LASCAR (negotiations limited to reprocessing technology holders); Trilateral Initiative (negotiations initiated by the Russian Federation that included the US and the IAEA)
- External initiatives of its Member States: Hexapartite Project, which involved commercial centrifuge enrichment technology holders and those on the verge of becoming technology holders, as well as Euratom and the IAEA
- Bilateral negotiations between the IAEA Secretariat and individual States

So, as to a committee? While that approach works in some cases, it does not in others. It depends on the context and the political environment. Experience suggests that, when dealing with novel and complex technical issues, particularly in a politically volatile environment, there is merit to leaving their resolution to the technical experts.

Military-to-military transfers?

It has been suggested by some that, because Australia's CSA – and by extension any CSA – is limited in application to NM in “peaceful nuclear activities”, in light of the formulation of para. 1 of 153, that the NM transferred to Australia in the context of AUKUS is not NM “subject to SG under its CSA” and that therefore Article 14 is not applicable.

Could a military-to-military transfer be invoked to obviate the need for a paragraph 14 arrangement? **No, as a legal and a policy matter.**

LEGAL

- In accordance with customary international law, a treaty should be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of an agreement in their context and in light of their object and purpose.
- Para. 1 of INFCIRC/153 requires that the State accept safeguards, in accordance with the terms of the Agreement, on all source or special fissionable material in all peaceful nuclear activities within its territory, under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices. Para. 2 of 153 requires the Agency to ensure that SG are applied to all such material for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices.
- The reference to “peaceful nuclear activities” tracks the language of the NPT, which was intended to accommodate the interest among some non-nuclear-weapon States in the 1960s in the possibility of nuclear naval propulsion (nuclear-powered submarines), not as a means of securing an exclusion of nuclear material from safeguards due its use in a military activity.

- Paragraph 34(c) of INFCIRC/153 requires that nuclear material of a composition and purity suitable for fuel fabrication or isotopic enrichment, or produced later in the nuclear fuel cycle (as would be the nuclear material in a reactor core), becomes subject to all of the safeguards procedures under the safeguards agreement upon its import into a CSA State. This provision is not limited to the import of such material for peaceful purposes. Thus, the nuclear material contained in a reactor would become subject to safeguards upon its import, regardless of the purpose for which it was imported.
- Pursuant to paragraphs 95-96, a State is required to notify the IAEA of the expected transfer into the State of nuclear material in an amount greater than one effective kilogram (again, as would be the nuclear material in a submarine reactor core), in any case not later than the date on which the recipient State assumes responsibility for the material. Likewise, the State would be obliged to report the export of such material pursuant to paragraph 92 to 94. In neither of these provisions is there an exclusion for nuclear material used in or transferred for use a military activity.
- Thus , from a plain reading of INFCIRC/153, taken in its context and in light of its object and purpose, it must be concluded that a State party to a comprehensive safeguards agreement has committed itself to notifying the IAEA of the production and import of nuclear material, even if the material is intended for use in a non-proscribed military nuclear activity, and *furthermore* to complying with the provisions of paragraph 14 should it wish to exercise its discretion “to use nuclear material which is required to be safeguarded ... in a nuclear activity which does not require the application of safeguards.
- This is unambiguous from a plain reading of the text and is supported by the negotiation history of INFCIRC/153, which clearly confirms that interpretation. As noted above, the drafters emphasized that the IAEA “should be consulted and satisfactory administrative arrangement reached concerning the use of any nuclear material for a military purpose permitted under [the NPT], whether or not the material was initially under safeguards”.

POLICY

- The worst possible outcome of this exercise would be an interpretation that the US/UK could provide nuclear powered submarines to Australia without Australia having to conclude a paragraph 14 arrangement with the IAEA. Why? Because it would imply that a State could circumvent comprehensive safeguards simply by asserting that nuclear material is in a military activity.
- To interpret paragraph 1 of INFCIRC/153 as providing what would be tantamount to an automatic exclusion from safeguards of nuclear material simply because it was already in, or produced for use in, a military activity would in effect, allow a State to conceal prohibited nuclear activities behind a military shield. It would create an enormous loophole in safeguards, thereby **defeating the very object and purpose of comprehensive safeguards agreements, a result not only contrary to international treaty law but highly undesirable as a matter of policy.**
- Just to bring this home, I’d like to remind you that IAEA Member States rejected that argument in 1993 when the DPRK attempted to thwart IAEA access to two locations

on the basis that they were military in nature. The IAEA advised the DPRK that there was no automatic exclusion for IAEA access to information or locations simply by virtue of such information or locations being associated with military activities – a view shared by the Board of Governors.

As a final note, while some argue that Australia's non-proliferation credentials should allow for greater flexibility in the arrangement to be concluded between the States and the IAEA, it is clear that any such arrangement will inevitably be invoked as a precedent for other States.

To that end, whatever the arrangement, it must be designed as fit for purpose regardless of who the partner states might be.

Ultimately, the acceptability of any given arrangement should be judged on its non-proliferation merits, and be able to survive the following test: if the names of the parties involved are changed, is it still acceptable?

Workshop “The AUKUS and Article 14”

Remarks by Anton Khlopkov, Director, Center for Energy and Security Studies
Vienna (Austria), 18 May 2023

1. First of all I would like to thank the organizers, the Permanent Mission of the People's Republic of China to the International Organizations in Vienna, for the invitation to participate in the workshop on such a relevant topic as the AUKUS Nuclear Submarine Deal and the application of the IAEA safeguards in this context.

2. The AUKUS Nuclear Submarine Deal, first announced in September 2021, raises numerous questions yet to be answered. Some of these questions, in my opinion, are only natural due to the sensitive nature of the project and the fact that it sets the precedent (no submarines were previously supplied to the NNWS which are parties to the NPT). Simultaneously, other questions are, in fact, artificially induced by the project participants by the lack of information and transparency about the activities involved.

3. I well understand the concerns of those who say that the AUKUS Submarine Deal poses nuclear proliferation risks or that it is not proliferation risks-free.

First, the project is slated to use about 4 tons of 93%-enriched uranium. In theory, this amount of material is enough to produce 160 simple nuclear warheads. It is worth to recall in this context, for example, that the first nuclear warheads of the only country in the Middle East, which possesses nuclear weapons, were made from HEU stolen (according to some estimates, about 300 kilograms) from a plant in Apollo, Pennsylvania, owned by NUMEC Corporation, that specialized in producing nuclear fuel for submarines. The use of low enriched instead of high enriched uranium would address several nonproliferation risks associated with the AUKUS Nuclear Submarine Deal would.

Second, there is no track record (there is no experience) for the application of safeguards in similar projects. The relevant concept needs to be developed.

4. Under Article 14 (b) of the Comprehensive Safeguards Agreement (CSA), a State and the Agency shall **make an arrangement** so that, only while the nuclear material is in such an activity (i.e., a non-proscribed military activity), the safeguards provided for in the Agreement will not be applied. “The arrangement” should define, to the extent possible, the period or circumstances during which safeguards will not be applied.

I would like to point out that it is the **Agency**, not the IAEA Secretariat, meaning that the Member States of the Agency and its governing bodies, including the IAEA Board of Governors, should be involved in discussing and approving the arrangement.

5. Let me remind here that this is about drafting (and approval) of an arrangement under the current bilateral Agreement between Australia and the Agency for the Application of Safeguards in connection with the NPT (INFCIRC/217; CSA). So, it is natural that Canberra and the Agency will play a central role in the process of preparing an arrangement.

6. However, this should not mean that Australia and the IAEA Secretariat draws up and approves the draft arrangement behind closed doors. In this case, the analogy with the

Subsidiary Arrangements, which are drafted between the IAEA Secretariat and a State in accordance with Articles 40-41 of the CSA and are not submitted to the IAEA Board of Governors, is not applicable. First, the Subsidiary Arrangements is a technical document. The content of the Subsidiary Arrangements is described in sufficient detail in the CSA, and second, they are essentially a technical document based on existing models/templates which describes nuclear facilities in a particular state and the procedures for applying safeguards to the nuclear material therein.

In the case of “the arrangement” under the Article 14 of the CSA there is a need to develop a conceptual document and here the Member States should be actively involved in the process.

7. It is difficult to recall a conceptual safeguards document in the history of the IAEA that would have been approved by the Board of Governors by vote rather than by consensus. Establishing a precedent with an arrangement between Australia and the Agency could threaten the universal nature of the safeguards approach and could have a negative impact on the effectiveness and sustainability of the Agency's safeguards system in the long term. It is therefore important to discuss the arrangement beforehand with the IAEA Member States with a view to adopting it by consensus.

8. In his statement on March 14, 2023, in relation to the AUKUS announcement, the IAEA DG Grossi drew attention to the fact that drafting an appropriate arrangement involves “serious legal and complex technical matters” as well as “the development of the necessary safeguards approach”. One cannot but agree with this statement. In this context, it may make sense to consider creating an expert mechanism (various forms possible) that would combine the knowledge and experience of the Agency Secretariat and the IAEA Member States.

9. In particular, such a mechanism could include specialists with experience in operating naval reactors. Safeguards would not apply to the nuclear material while in a nuclear submarine as fuel and the submarine is at sea, but the knowledge of such specialists would help develop procedures related to the application of safeguards to the nuclear material before loading and after unloading of the nuclear fuel. Similar expert groups have previously been created to develop safeguards approaches at complex and sensitive facilities: for example, for nuclear materials in geological disposal facilities and at the Rokkasho nuclear reprocessing plant in Japan.

10. As for the implementation of Article 14 of the CSA in the context of the AUKUS Nuclear Submarine Deal, it's not simply about a safeguards approach to the nuclear material of a submarine propulsion system, but rather about a “state-level approach” to the implementation of the CSA and its Additional Protocol. In this context (following the “state-level approach”), the question of whether Virginia-class nuclear submarines, the ones, which will be supplied to Australia, are designed to carry nuclear weapons on board becomes particularly important.

Thank you for your attention.