IAEA
تسخير الذرة من أجل السلام والتنمية

نشـرة إعلاميــة

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عربي
الأصل: الإنكليزية

رسالة مؤرَّخة 1 حزيران/يونيه 2023 وردت من البعثة الدائمة لجمهورية الصين الشعبية لدى الوكالة

1- تلقَّت الأمانة مذكرة شفوية مؤرَّخة 1 حزيران/يونيه 2023 مشفوعة بملحق، من البعثة الدائمة لجمهورية الصين الشعبية لدى الوكالة.

2- وحسبما هو مطلوب، تُعمَّم طيه المذكرة الشفوية وملحقها لكي تطَّلع عليهما جميع الدول الأعضاء.

جمهورية الصين الشعبية

البعثة الدائمة في فيينا

CPM-P-2023-34

تهدي البعثة الدائمة لجمهورية الصين الشعبية لدى الأمم المتحدة والمنظمات الدولية الأخرى في فيينا أطيب تحياتها لأمانة الوكالة الدولية للطاقة الذرية، ويشرّفها أن تقدِّم إليها ملخص حلقة العمل المعنونة "شراكة أوكوس والمادة 14: التحديات المقبلة"، والتي نظمتها البعثة الدائمة للصين في 18 أيار/مايو في مركز فيينا الدولي.

وتأمل البعثة الدائمة للصين أن تُعمَّم هذه المذكرة الشفوية والملخص الملحق بها على النحو الواجب على جميع الدول الأعضاء في الوكالة في الوقت المناسب.

وتغتنم البعثة الدائمة لجمهورية الصين الشعبية لدى الأمم المتحدة والمنظمات الدولية الأخرى في فيينا هذه الفرصة لكي تعربَ مجدداً لأمانة الوكالة عن أسمى آيات تقديرها.

فيينا، 1 حزيران/يونيه 2023

[الختم]

الأمانة
الوكالة الدولية للطاقة الذرية

موجز الرئيس[1]

'شراكة أوكوس والمادة 14: التحديات المقبلة'

حلقة عمل نظمتها البعثة الدائمة للصين

قاعة المؤتمرات 2 بمركز فيينا الدولي: 18 أيار/مايو 2023

ملاحظة: أُعدَّ هذا الموجز لكي يطلع عليه مجلس المحافظين في اجتماعه في حزيران/يونيه، بهدف إذكاء وعي الدول الأعضاء بحساسية وتعقيد المسائل المتعلقة بأي تنفيذ للمادة 14 من الوثيقة INFCIRC/153 (Corr).

في 18 أيار/مايو، نظَّمت البعثة الدائمة للصين حلقة عمل بعنوان **'شراكة أوكوس والمادة 14: التحديات المقبلة'** في مركز فيينا الدولي. وحضر حلقة العمل أكثر من 80 ممثلاً من 31 دولة عضواً في الوكالة الدولية للطاقة الذرية (الوكالة). وشارك في حلقة العمل السيد يونوت سوسيانو، رئيس قسم عدم الانتشار وجهازي تقرير السياسات التابع لمكتب الشؤون القانونية، ممثلاً عن أمانة الوكالة.

وركَّزت المناقشة على جوانب متعددة من التعاون بشأن الغواصات النووية في إطار شراكة أوكوس والمادة 14 من اتفاق الضمانات الشاملة – الوثيقة الصادرة عن الوكالة INFCIRC/153 (Corr). وأدار الفعالية السيد لي تشيجيانغ، الأمين العام للرابطة الصينية لتحديد الأسلحة ونزع السلاح. وقدَّم ثلاثة من أعضاء فريق المناقشة عروضاً إيضاحية وأطلعوا الحاضرين على آرائهم، وهم:

- الدكتور طارق رؤوف (الرئيس السابق لقسم تنسيق السياسات المتعلقة بالتحقق والأمن، التابع للمدير العام للوكالة)، والذي تكلَّم في موضوع "التحدي الداهم أمام ضمانات الوكالة: الدفع النووي البحري"؛
- السيدة لورا روكوود (الزميلة الأقدم غير المقيمة لدى مركز فيينا لنزع السلاح وعدم الانتشار، والرئيسة السابقة لقسم عدم الانتشار وجهازي تقرير السياسات التابع لمكتب الشؤون القانونية)، والتي تكلَّمت في موضوع "المسائل الرئيسية المتصلة بالغواصات والضمانات"؛
- السيد أنطون خلوبكوف (مدير مركز دراسات الطاقة والأمن)، والذي تكلَّم في موضوع "شراكة أوكوس والمادة 14".

وعُقدت جلسة أسئلة وأجوبة شهدت تفاعلات مكثفة بين الحاضرين. وخلال حلقة العمل، أعرب مقدمو العروض والمناقشون عن *جملة من الآراء*، ومن بينها الآراء التالية (يمكن الاطلاع على العروض الإيضاحية الكاملة باللغة الإنكليزية في الملفات المرفقة بصيغة PDF).

يشكِّل التعاون في إطار شراكة أوكوس من أجل الحصول على غواصات تعمل بالدفع النووي أول مرة في التاريخ تشهد قيام دول حائزة لأسلحة نووية في إطار معاهدة عدم الانتشار بنقل مفاعلات نووية بحرية تعمل بوقود اليورانيوم الشديد الاثراء الصالح للاستعمال في صنع الأسلحة إلى دولة غير حائزة لأسلحة نووية طرف في معاهدة عدم الانتشار. وسيشكِّل هذا التعاون سابقة تطرح تحديات كبيرة أمام نظام ضمانات الوكالة من حيث التحقق من صحة واكتمال إعلانات الدول

[1] يقتصر الغرض من موجز الرئيس الوارد في هذه الوثيقة على الاطلاع فحسب؛ وهو يسجّل المواضيع الرئيسية التي أثيرت ومجالات النقاش المتصلة بالموضوع المعلن عنه لحلقة العمل، وهو لا يهدف إلى التماس اتفاق جميع المشاركين ولا إلى أن يكون شاملاً وجامعاً لجميع وقائع حلقة العمل.

غير الحائزة لأسلحة نووية عن أنشطتها النووية في إطار معاهدة عدم الانتشار، وأمام سلامة المنظومة الدولية الخاصة بعدم الانتشار النووي التي تشكِّل معاهدة عدم الانتشار حجر الزاوية فيها. ومن المتوقع أن يستخدم مشروع أوكوس نحو طنين أو أكثر من اليورانيوم الشديد الإثراء بنسبة 93٪-97,3٪ كوقود لمفاعلات الدفع النووي البحري. وتتناول المادة 14 من الوثيقة INFCIRC/153 (Corr) مسألة "عدم تطبيق الضمانات على المواد النووية المعتزم استخدامها في أنشطة عسكرية غير محظورة".

وحتى الآن، لا توجد أي خبرات أو سجلات سابقة بشأن "عدم تطبيق" الضمانات الشاملة. وفي حال المضي قدماً في إتمام مشروع أوكوس بصيغته السرية الحالية فإنَّ هذا سوف يرسي سابقة في ظل عدم وجود بارامترات متفق عليها وفهم متفق عليه من جانب مجلس المحافظين والدول الأعضاء. وبالإضافة إلى ذلك، فقد مضى حتى الآن أكثر من 18 شهراً من الإعلان عن اتفاق شراكة أوكوس، ولم تُعقد أي إحاطات أو مشاورات تقنية أو سياسية أو قانونية بشأن المادة 14 بمشاركة الأمانة والأطراف في شراكة أوكوس والدول الأعضاء. ويشكِّل هذا قطيعة كبيرة مع الممارسة المعهودة لدى الوكالة والمتمثلة في عقد مشاورات مفتوحة العضوية بشأن المسائل المتعلقة بتفسير ضمانات الوكالة أو تنفيذها أو تعزيزها. وقد شاركت هذه المشاورات المفتوحة العضوية واللجان التي شكَّلها المجلس في صياغة أُطر الضمانات والتفاوض عليها ووضعها في صيغتها النهائية بما في ذلك الوثيقة INFCIRC/153 (Corr)، وتدابير تعزيز الضمانات "2+93"، والوثيقة INFCIRC/540 (البروتوكول الإضافي النموذجي)، وتعديل/إلغاء بروتوكولات الكميات الصغيرة.

وفيما يتعلق بالمادة 14 من الوثيقة INFCIRC/153 (Corr)، فقد أُشير إلى أنَّه على حد علم الأمانة فلا يوجد تعريف رسمي لتعبير "النشاط العسكري غير المحظور". ومن شأن عقد مشاورات مفتوحة العضوية أن يكون مفيداً بل ولازماً من أجل التوصل إلى فهم مشترك متفق عليه لأحكام المادة 14. وبالإضافة إلى ذلك، فلا يمكن لدولة أو مجموعة دول أن تمنح نفسها مسؤولية تحديد معنى المادة 14 ونطاقها – فلا يجوز ذلك إلا للدول الأعضاء في إطار مشاورات مفتوحة العضوية.

وأُشير إلى أنَّ نقل الوقود النووي البحري "من جهة عسكرية إلى أخرى" يمكن أن يؤدي إلى تلافي الحاجة إلى التذرُّع بأحكام المادة 14 بوصفه مسألة قانونية وسياسية. وتمثلت إحدى الملاحظات المهمة أيضاً في أنَّه مهما كان الترتيب الذي سيطبَّق عملاً بالمادة 14، فلا بدَّ من تصميمه بحيث يناسب الغرض منه بصرف النظر عن هوية الدول الشريكة أيًّا كانت. وفي نهاية المطاف، فإنَّ مقبولية أي ترتيب بعينه ينبغي أن تُحدَّد بناءً على مزاياه على صعيد عدم الانتشار، وبناءً على القدرة على اجتياز الاختبار التالي: إذا ما تغيرت أسماء الأطراف المشاركة، هل يظلُّ الترتيب مقبولاً؟

وأُبديت ملاحظة مفادها أنَّ الوكالة، وليس أمانة الوكالة، أي الدول الأعضاء في الوكالة وجهازي تقرير السياسات بها، بما في ذلك مجلس محافظي الوكالة، ينبغي أن تشارك في مناقشة الترتيب المزمع عقده بمقتضى المادة 14 والموافقة عليه. ويصعب العثور في تاريخ الوكالة على أي وثيقة ضمانات مفاهيمية كان يمكن إقرارها من مجلس المحافظين بالتصويت وليس بتوافق الآراء. وفي حال إرساء سابقة بإبرام ترتيب بين أستراليا والوكالة، فإنَّ ذلك يمكن أن يهدد الطابع العالمي لنهج الضمانات ويمكن أن يكون له تأثير سلبي على فعالية نظام ضمانات الوكالة واستدامته في الأجل الطويل.

ويتناول الموجز المختصر التالي جلسة النقاش.

تساءلت بعض وجهات النظر عن سبب عدم اضطلاع مجلس المحافظين بدور أكثر قيادية في وضع السياسات والتفاهمات التقنية فيما يتعلق بالمادة 14. وقيل إنَّه ينبغي أن تشارك الدول الأعضاء في الوكالة وجهازا تقرير السياسات بها، بما في

ذلك مجلس محافظي الوكالة، في مناقشة الترتيب المعتزم والموافقة عليه. وفي حال إرساء سابقة بإبرام ترتيب بين أستراليا والوكالة دون اضطلاع مجلس محافظي الوكالة بدور فاعل في هذا الصدد، فإنَّ ذلك يمكن أن يهدد الطابع العالمي لنهج الضمانات ويمكن أن يكون له تأثير سلبي على فعالية نظام ضمانات الوكالة واستدامته في الأجل الطويل. ومن ثمَّ فمن المهم مناقشة الترتيب المعتزم مسبقاً مع الدول الأعضاء في الوكالة بغية اعتماده بتوافق الآراء. وفي جوهر الأمر، فقد أثبت تاريخ الضمانات أنَّ توافق الآراء الشامل للجميع هو الحل الطويل الأجل الذي يراعي شواغل الجميع.

ويلزم أن يكون من المفهوم بوضوح أنَّ المسائل المتعلقة بتفسير وتنفيذ اتفاق الضمانات الشاملة (الوثيقة INFCIRC/153 (Corr.)) هي مسائل سياسية ومتعلقة بالسياسات بطبيعتها، ومن ثمَّ فهي تهم جميع الدول الأعضاء في الوكالة والدول الأطراف في معاهدة عدم الانتشار. ومسألة نقل المواد النووية من دول حائزة لأسلحة نووية إلى دولة غير حائزة لأسلحة نووية ليست واضحة ولا حاضرة في المادة 14.

وبناءً على المفاوضات التي شهدها تاريخ اتفاق الضمانات الشاملة (الوثيقة INFCIRC/153 (Corr))، فمن الواضح أنَّه ينبغي التشاور مع الوكالة والدول الأعضاء، والتوصل إلى ترتيبات إدارية مرضية فيما يتعلق باستخدام أي مواد نووية لغرض عسكري غير محظور في إطار معاهدة عدم الانتشار، سواء أكانت المواد خاضعة للضمانات في الأصل أو لم تكن. وقيل إنَّ الترتيب الذي يبدو أن أستراليا تطلب عقده بمقتضى المادة 14 ينطوي على مسائل قانونية وتقنية معقدة تتطلب تحليلاً دقيقاً وشاملاً ومناقشة متعمقة.

وبالنظر إلى أنَّ التعاون بشأن الغواصات في إطار شراكة أوكوس هو أمر غير مسبوق، فإنَّ نهج الضمانات الذي سيقع عليه الاختيار سيكون له تأثير أعم في جميع برامج اقتناء الغواصات العاملة بالدفع النووي في المستقبل، وكذلك في أي عمل يُضطلع به في المستقبل بخصوص المادة 14. ومن ثم ينبغي إجراء مناقشات لمعالجة هذا الأمر، بما يشمل مناقشات مهنية ومناقشات حكومية مفتوحة العضوية بين الدول الأعضاء. وقد يكون من المنطقي أن يُنظر في إنشاء آلية للخبراء (بعدَّة أشكال ممكنة) تجمع بين معارف وخبرات أمانة الوكالة والدول الأعضاء والخبراء المعنيين.

والمناقشة بشأن شراكة أوكوس والمادة 14 ليست إلا بداية لعملية حكومية دولية طويلة. وخلال حلقة العمل، أُثير العديد من الأسئلة الضرورية، إن لم تكن قد أُثيرت كلُّها، بيد أنَّ العثور على إجابات لجميع هذه الأسئلة ليس هو الغرض المنشود الآن.

وقد طُرحت الأسئلة التالية، *من بين أسئلة أخرى*، أثناء حلقة العمل، وهي تعبّر عن بعض التعقيدات التي ينطوي عليها مشروع التعاون بشأن الغواصات بشأن شراكة أوكوس:

- هل تتمتع أمانة الوكالة بصلاحية أو ولاية تفسير أحكام معاهدة عدم الانتشار؟
- هل يندرج تفسير ترتيب الضمانات المعتزم وضعه في إطار شراكة أوكوس وفقاً للمادة 14 ضمن الاختصاص الحصري للأمانة والمجلس؟
- لماذا لم يضطلع المجلس والدول الأعضاء بدور قيادي في وضع التفاهمات السياسية والتقنية فيما يتعلق بتطبيق المادة 14 من الوثيقة INFCIRC/153 (Corr)؟
- ما هي نُهُج الضمانات ذات المصداقية والأهداف التقنية ذات الصلة التي يمكن تطبيقها فيما يخصُّ وقود ومفاعلات الدفع النووي البحري العاملة باليورانيوم الشديد الإثراء؟

- كيف سيتأثر استخلاص الاستنتاج الأوسع نطاقاً في إطار البروتوكول الإضافي فيما يخصُّ دولة غير حائزة لأسلحة نووية في إطار معاهدة عدم الانتشار إذا كانت تلك الدولة تنفِّذ المادة 14 من الوثيقة INFCIRC/153 (Corr) بشأن عدم تطبيق الضمانات على مواد نووية يُزمع استخدامها في أنشطة غير سلمية؟
- كيف سيتعامل اتفاق الضمانات الشاملة مع مسألة نقل مفاعلات الدفع النووي البحري العاملة بوقود اليورانيوم الشديد الإثراء إلى دولة غير حائزة لأسلحة نووية في إطار معاهدة عدم انتشار الأسلحة النووية؟
- هل يمكن اعتبار تطبيق الضمانات على مشروع الغواصات في إطار شراكة أوكوس نوعاً من "المساعدة" التقنية، وهل من شأن هذا النوع من "المساعدة" أن يخالف المادة الثانية من النظام الأساسي للوكالة؟
- ما هي تدابير الضمانات التي يلزم على أستراليا تنفيذها لضمان المساءلة والشفافية في مشروعها للغواصات العاملة بالوقود النووي، وخصوصاً بالنظر إلى استخدام كمية تبلغ طنين أو أكثر من اليورانيوم الشديد الإثراء الصالح للاستخدام في صنع الأسلحة؟
- كيف يمكن تقييم التحديات التي يطرحها مشروع أوكوس غير المسبوق أمام نظام ضمانات الوكالة بشكله القائم، خصوصاً فيما يتعلق بالممارسة المعتادة في الوكالة والمتمثلة في إجراء مشاورات شاملة للجميع وشفافة ومفتوحة العضوية تشارك فيها جميع الدول الأعضاء وتتناول جميع المسائل المتعلقة بالضمانات والأمان والأمن؟
- ما هو الدعم الذي يمكن للدول الأعضاء المهتمة تقديمه إلى المدير العام والأمانة من أجل تيسير إجراء المشاورات المفتوحة العضوية وعقد الإحاطات التقنية بشأن المسائل المتعلقة بتفسير وتنفيذ المادة 14؟
- ما هو الدور الذي ينبغي أن تؤديه الأمانة لتيسير عملية المناقشة الحكومية الدولية بشأن شراكة أوكوس؟

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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)

IAEA

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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.
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Notate bene

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3

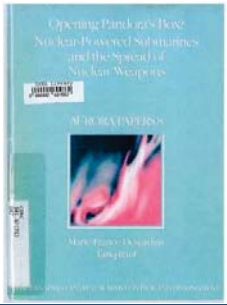
Notate bene

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.

4

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…

5

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

LETTER DATED 1 OCTOBER 2003 FROM THE PERMANENT REPRESENTATIVE OF THE NETHERLANDS TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A SUMMARY OF THE FIFTH OPEN-ENDED INFORMAL MEETING IN THE FRAMEWORK OF THE NETHERLANDS' FMCT-EXERCISE, ON A TREATY BANNING THE PRODUCTION OF FISSILE MATERIAL FOR NUCLEAR WEAPONS AND OTHER NUCLEAR EXPLOSIVE DEVICES, HELD IN GENEVA ON 26 SEPTEMBER 2003

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**

6

Conference on Disarmament: Summary of the Fifth Open-ended Informal Meeting on FMCT held in Geneva on 26 September 2003 (CD/1719)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LETTER DATED 1 OCTOBER 2003 FROM THE PERMANENT REPRESENTATIVE OF THE NETHERLANDS TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING THE SUMMARY OF THE FIFTH OPEN-ENDED INFORMAL MEETING IN THE FRAMEWORK OF THE NETHERLANDS' FMCT-EXERCISE, ON A TREATY BANNING THE PRODUCTION OF FISSILE MATERIAL FOR NUCLEAR WEAPONS AND OTHER NUCLEAR EXPLOSIVE DEVICES, HELD IN GENEVA ON 26 SEPTEMBER 2003

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**

7

CONFERENCE ON DISARMAMENT

CD/PV.1037
24 August 2006

ENGLISH

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

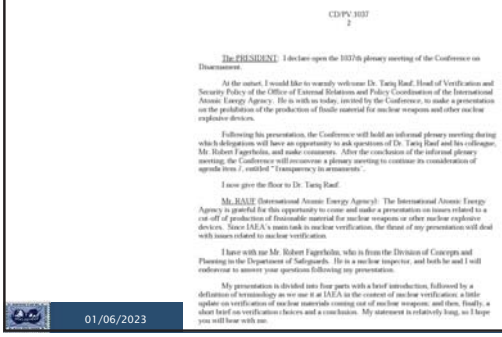
FINAL RECORD OF THE ONE THOUSAND AND THIRTY-SEVENTH PLENARY MEETING

Held at the Palais des Nations, Geneva,
on Thursday, 24 August 2006, at 10.25 a.m.

President: Mr. Anton PINTER (Slovakia)

8

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 Rauf, Head of Verification and Security Policy of the Office of External Relations and Policy Coordination of the International Atomic Energy Agency. He 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 Rauf and his colleague, Mr. Robert Fagerholm, and make comments. After the conclusion of the informal plenary meeting, the Conference will reconvene a plenary meeting to continue its consideration of agenda item 1, entitled "Transparency in armaments".

I now give the floor to Dr. Tariq Rauf.

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

I have with me Mr. Robert Fagerholm, who is from the Division of Concepts and Planning in the Department of Safeguards. He is a nuclear inspector, and both he and I will endeavour 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 little update on verification of nuclear materials coming out of nuclear weapons; and then, finally, a short brief on verification choices and a conclusion. My statement is relatively long, so I hope you still hear with me.

9

NUCLEAR SUBMARINES AND THE NON-PROLIFERATION TREATY: BRAZIL GETS A JUMP ON AUSTRALIA?

Tariq Rauf

VIENNA, 8th AUGUST 2022

Originally scheduled for April-May 2020, due to postponements because of the Covid-19 pandemic, the Tenth Review Conference of the Nuclear Non-Proliferation Treaty (NPT) finally convened in three turbulent times at the United Nations in New York on 1st August and will conclude its deliberations on 26th August.

NPT review conferences are held every five years to assess the implementation of the NPT across its three "pillars": nuclear disarmament, nuclear non-proliferation, and cooperation in the peaceful uses of nuclear energy.

In addition to the usually contentious and oftentimes bad tempered discourse in previous review conferences on the failure of the five nuclear-weapon States – China, France, Russia, UK and USA – to eliminate their nuclear arsenals as well on the failure to establish a zone free of nuclear and other weapons of mass destruction in the Middle East, this review conference has a new problematic issue on its agenda.

The problem relates to the 15 September 2021 announcement that the United States would provide Australia eight nuclear-powered submarines (SSNs) fuelled by weapon-grade highly-enriched uranium (HEU), under the AUKUS agreement. On the same date in September, the Director General of the International Atomic Energy Agency, received a communication from the United States concerning "an enhanced trilateral security partnership called 'AUKUS'" to "support Australia's acquisition of a conventionally armed, nuclear-powered submarine capability".

This programme would seek to exploit a "loophole" or "grey area" in the nuclear safeguards (verification) system of the IAEA in connection with the non-proliferation of nuclear weapons under the NPT. This concerns exempting the nuclear fuel and the nuclear propulsion

PANDORA'S BOX OPENED? RUN SILENT! RUN DEEP! SINK IAEA SAFEGUARDS?

Tariq Rauf

VIENNA, 17th MARCH 2023 (Updated)

Run Silent, Run Deep

Coming up to the eighteen month mark following the announcement of the AUKUS agreement on the supply of nuclear-powered submarines (SSNs) to the Royal Australian Navy (RAN), the International Atomic Energy Agency (IAEA) continues to struggle to deal with the challenge put up by naval nuclear propulsion to the implementation, efficacy and credibility of the Agency's nuclear safeguards (verification) system.

Nearly two months after the 15 September 2021 announcement of the launch of AUKUS, Kurt Campbell, then-US Assistant Secretary of State responsible for the somewhat fictional geostrategic concept of the "Indo-Pacific", was quoted as saying that AUKUS would bring about "*almost a multiple of our services*" referring to the projected new collaboration of the nuclear navies of the UK and US with the Australian Navy.

In an unwitting back back to the ill-fated US proposal in the 1960s of a "Multilateral Force" (MLF) that envisaged multi-national (NATO) crewed nuclear-armed ships and submarines, Campbell talked about, *"We will have British sailors serving on our naval vessels, Australians and the like on more of our forward-deployed vessels in Australia"*. To be clear, unlike the MLF, AUKUS at present does not envisage Australian nuclear-powered submarines to be deployed with nuclear weapons – they would carry sea-launched conventionally-armed cruise missiles.

Following up on Kurt Campbell's comments, former US undersecretary for defence for policy, Jim Miller, stated that the US will within eighteen months "*basically design an architecture about how these three countries will work more proactively on defence ...[and will] do whatever possible to provide the Royal Australian Navy with options to build nuclear*

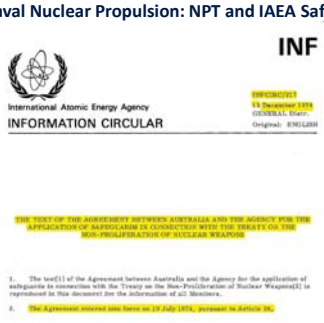
10

Organization of the Briefing

11

- 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

Naval Nuclear Propulsion: NPT and IAEA Safeguards


INF

International Atomic Energy Agency
INFORMATION CIRCULAR

INFCIRC/217
13 December 1974
GENERAL Distr.
Original: ENGLISH

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

1. The text[1] 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[2] is reproduced in this document for the information of all Members.

2. The Agreement entered into force on 19 July 1974, pursuant to Article 26.

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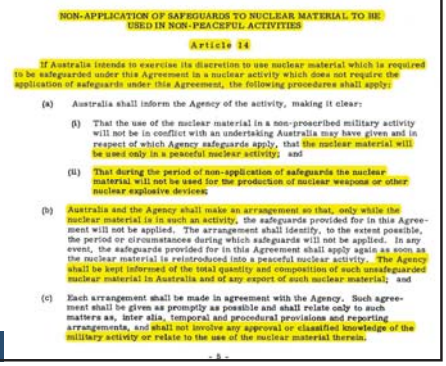
Naval Nuclear Propulsion: NPT and IAEA Safeguards

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 unsafeguarded 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 relate to the use of the nuclear material therein.

- 8 -

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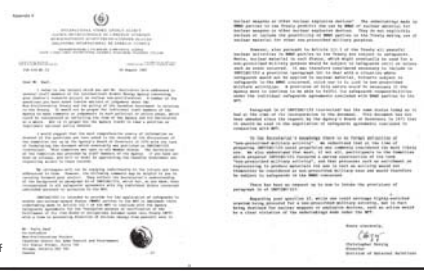
Questions: NPT, INFCIRC/153

- 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?

14

Questions: NPT, INFCIRC/153
20 Aug 1987: Secretariat letter addressed to me:



15

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?

16

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?**

17

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?

18

Questions: NPT, INFCIRC/153

19

- 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?

19

Questions: NPT, INFCIRC/153

20

- 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?

20

Questions: NPT, INFCIRC/153

21

- 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?

21

Questions: NPTRC 2020(2022)

22

- 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?

22

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)*

23

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

24


B

BOARD OF GOVERNORS

REPORT OF THE SENIOR EXPERT GROUP FOR THE REVIEW OF THE INTERNATIONAL ATOMIC ENERGY AGENCY'S PROGRAMME OF ACTIVITIES


Comments of the Director General on the Senior Expert Group Report

I. Introduction

The SEG Mandate

II. Comments on the General Recommendations of the SEG Report

24

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

25

Commission members

IAEA

Board of Governors
General Conference

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

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

26

Atom for Peace

A Secure Nuclear Future

by Tariq Rauf and Zoryana Vovchok

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

Fuel for Thought

by Tariq Rauf and Zoryana Vovchok

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

The line between the peaceful and the military atom is, in some cases, merely a reflection of the intentions of those making use of the technology. It remains essential that nuclear energy is used responsibly under the highest standards for non-proliferation, security and safety.

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

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Multilateral Approaches to the Nuclear Fuel Cycle

Expert Group Report to the Director General of the IAEA

Annex II
PARTICIPANTS AND CONTRIBUTORS

Tariq Rauf

01/06/2023

BRIEFING FOR MEMBER STATES

28

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 (MNA) and of the 50th IAEA General Conference (Special Event): New Framework for the Utilization of Nuclear Energy in the 21st Century: Assurance of Supply and Non-Proliferation)

Vienna, 6 February 2007

IAEA

Tariq Rauf

01/06/2023

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

Tariq Rauf

Informal Technical Briefing

IAEA

BRIEFING FOR MEMBER STATES

Note

- 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

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IAEA

Board of Governors

GOV/INF/2007/11

For official use only

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

Report by the Director General

Tariq Rauf

01/06/2023

31

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?

32

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?

33

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)?

34

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?

35

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?

36

Questions: Role of the Board

37

"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?

37

Questions: Technical

38

- 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?

38

Questions: Technical

39

- 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?

39

Questions: Technical

40

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?

40

Questions: Technical

41

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?

41

Questions: Technical

42

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"?

42

Questions: Technical

43

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?

Tariq Rauf 01/06/2023

43

Questions: Technical

44

- 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?**

Tariq Rauf 01/06/2023

44

Questions: Technical

45

- 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

45

Questions: Technical:
20 Aug 1987: Secretariat letter addressed to me:

46

- 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?.**

Tariq Rauf 01/06/2023

46

Questions: Technical:
20 Aug 1987: Secretariat letter addressed to me:

47

"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?

Tariq Rauf 01/06/2023

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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.

Tariq Rauf: 01/06/2023 48

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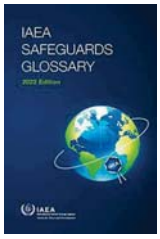
Naval Nuclear Propulsion: NPT and IAEA Safeguards



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 procedures(s) pertaining to the non-application of safeguards pursuant to para.14?

51

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):

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

International Atomic Energy Agency

BOARD OF GOVERNORS

B

For official use only

GOV/INF/347 (3 July 1978):

"…**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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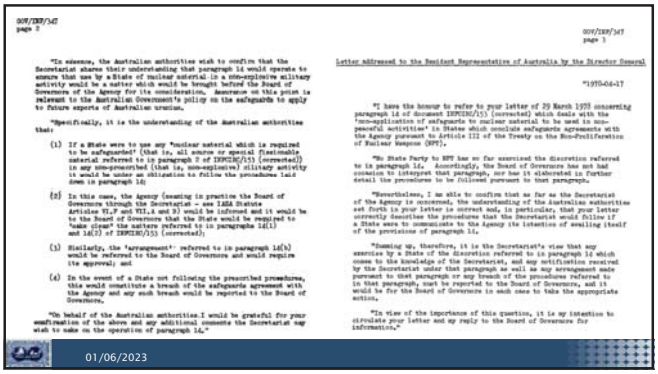

GOV/INF/347
page 2

"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-explosive 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 relevant to the Australian Government's policy on the safeguards to apply to future exports of Australian uranium.

"Specifically, it is the understanding of the Australian authorities that:

(1) 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 7 of INFCIRC/153 (corrected)) in any non-proscribed (that is, non-explosive) military activity it would be under an obligation to follow the procedures laid down in paragraph 14;

(2) In this case, the Agency (meaning in practice the Board of Governors through the Secretariat - see IAEA Statute Articles VI,F and VII,A and D) would be informed and it would be to the Board of Governors that the State would be required to "make clear" the matters referred to in paragraphs 14(1) and 14(2) of INFCIRC/153 (corrected);

(3) Similarly, the "arrangement" referred to in paragraph 14(b) would be referred to the Board of Governors and would require its approval; and

(4) In the event of a State not following the prescribed procedures, this would constitute a breach of the safeguards agreement with the Agency and any such breach would be reported to the Board of Governors.

"On behalf of the Australian authorities I would be grateful for your confirmation of the above and any additional comments the Secretariat may wish to make on the operation of paragraph 14."

GOV/INF/347
page 3

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

"1970-04-17

"I have the honour to refer to your letter of 29 March 1978 concerning paragraph 14 of document INFCIRC/153 (corrected) which deals with the 'non-application of safeguards to nuclear material to be used in non-peaceful activities' in States which conclude safeguards agreements with the Agency pursuant to Article III of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

"No State Party to NPT has so far exercised the discretion referred to in paragraph 14. Accordingly, the Board of Governors has not had occasion to interpret that paragraph, nor has it elaborated in further detail the procedures to be followed pursuant to that paragraph.

"Nevertheless, I am able to confirm that as far as the Secretariat of the Agency is concerned, the understanding of the Australian authorities set forth in your letter is correct and, in particular, that your letter correctly describes the procedures that the Secretariat would follow if a State were to communicate to the Agency its intention of availing itself of the provisions of paragraph 14.

"Summing up, therefore, it is the Secretariat's view that any exercise by a State of the discretion referred to in paragraph 14 which comes to the knowledge of the Secretariat, and any notification received by the Secretariat under that paragraph as well as any arrangement made pursuant to that paragraph or any breach of the procedures referred to in that paragraph, must be reported to the Board of Governors, and it would be for the Board of Governors in each case to take the appropriate action.

"In view of the importance of this question, it is my intention to circulate your letter and my reply to the Board of Governors for information."

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

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- 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?

55

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

56

- 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?

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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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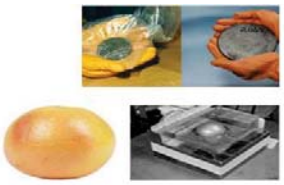
Significant Quantity Nuclear Material for a Warhead:

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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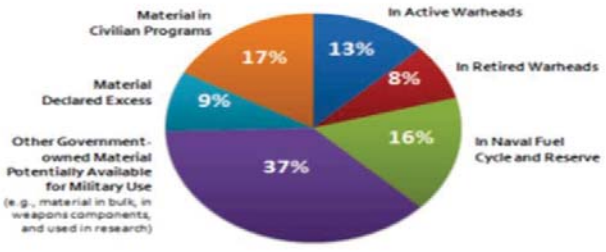
Categories of Weapons-Usable Nuclear Materials Globally (Estimated Percentages)



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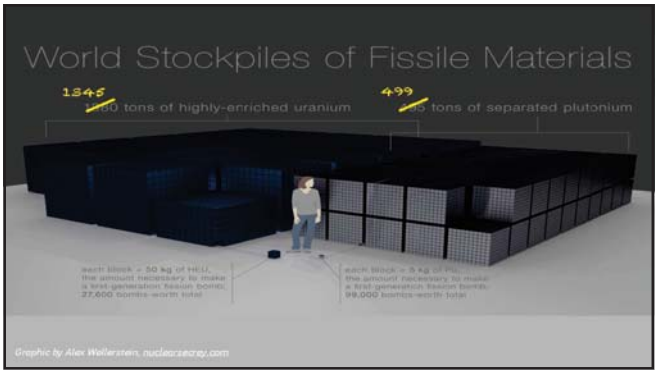
World Stockpiles of Fissile Materials



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Questions: Technical

61

- 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

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 > *Álvaro 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*

68

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"

70

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"

72

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"

73

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"

75

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

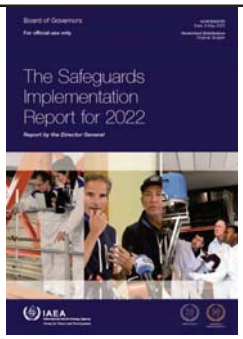
Vienna, 14 March 2023: "*This process involves serious legal and complex technical matters. The required arrangement under Article 14 of the CSA and the development of the necessary safeguards approach must be in strict conformity with the existing legal framework. Importantly, once that the arrangement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

80

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…"*

81



SIR 2022 (9 May 2023)

H. Naval Nuclear Propulsion

82

- 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

86

Conclusions

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- 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

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Conclusions

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- 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

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- 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

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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

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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

Tariq Rauf 01/06/2023

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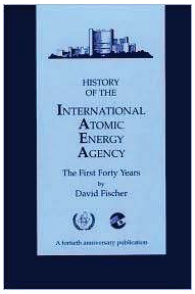
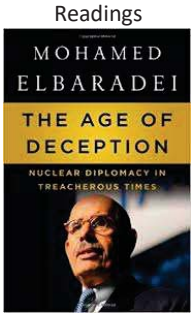
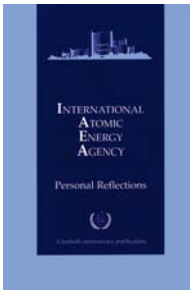
Readings







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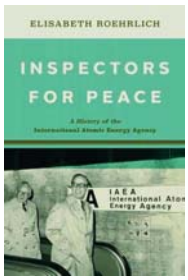
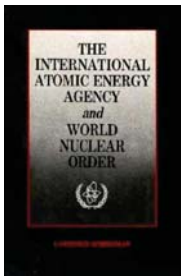
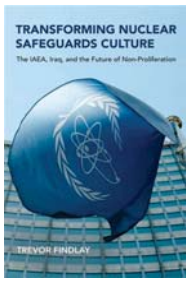
Readings







01/06/2023 Tariq Rauf 93Tariq Rauf

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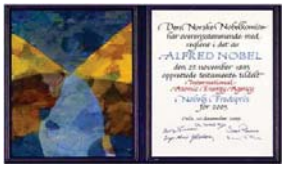
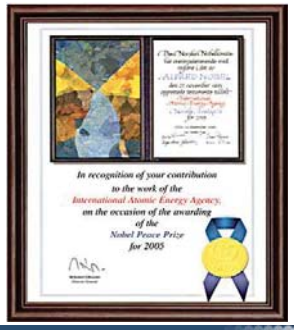
tariqrauf@icloud.com
Tel: 06991 920 7387





01/06/2023 Tariq Rauf 94Tariq Rauf

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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 Ithe 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 miliary 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 be 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 posses with 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.