

Second Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons

Distr.: General
23 October 2023

Original: English

New York, 27 November–1 December 2023

Item 11 (f) (i) of the provisional agenda*

Consideration of the status and operation of the Treaty and other matters important for achieving the objectives and purpose of the Treaty: other matters important for achieving the objectives and purpose of the Treaty: scientific and technical advice for the effective implementation of the Treaty

Report of the Scientific Advisory Group on its annual activities

I. Summary

1. At the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons, a decision was taken to establish a Scientific Advisory Group composed of up to 15 members to be appointed by the President following consultations with States parties, taking into account the need for a comprehensive spread of relevant fields of scientific and technological expertise, gender balance and equitable geographical distribution.¹

2. The present report to the second Meeting of States Parties contains a brief summary of the background and establishment of the Group in February 2023, and its work in nine online meetings and one in-person meeting in the period until October 2023, convened by the Co-Chairs, and reflections on future activities. The work in this period was focused in particular on the mandates from the first Meeting of States Parties that: (a) the Group report to the Second Meeting of States Parties on the status and developments regarding nuclear weapons, nuclear weapon risks, the humanitarian consequences of nuclear weapons, nuclear disarmament and related issues; and (b) the Group help lay the basis for establishing a network of scientific and technical experts to support the goals of the Treaty.

II. Establishment of the Scientific Advisory Group

3. The decision to establish the Scientific Advisory Group was based on the president-elect's working paper "Institutionalizing scientific and technical advice for the effective implementation of the Treaty on the Prohibition of Nuclear Weapons".

* [TPNW/MSP/2023/1](#).

¹ Decision 2 of the the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons, annex II, sect. IV, Institutionalizing scientific and technical advice for the effective implementation of the Treaty, report of the first Meeting of States Parties ([TPNW/MSP/2022/6](#)), para. 10.



In this, he proposed that “a scientific and technical advisory process ... [would] play a useful role in enhancing knowledge and contribute to the Treaty’s effective implementation, as well as strengthen the credibility of the implementation process”.²

4. This decision was reinforced by actions 33 and 34 of the Vienna Action Plan,³ in which States Parties resolved:

(a) To support the work of the Scientific Advisory Group, including through the appointment of recognized experts drawn from the broadest possible pool in the field of nuclear disarmament and non-proliferation, and/or the humanitarian consequences and risks associated with nuclear weapons, and the requisite humanitarian response, active at relevant institutions and universities on the basis of their expertise in the particular scientific fields relevant to the implementation of the Treaty (action 33);

(b) To identify and engage scientific and technical experts and institutions in States Parties to the Treaty by the second Meeting of States Parties and, through the Group, establish a geographically diverse and gender-balanced network of experts to support the goals and Treaty (action 34).

5. The role and function of the Group in assisting States Parties in implementing the Treaty and in strengthening the credibility of the implementation process were specified as including, inter alia:

(a) Report to the Meeting of States Parties and Review Conference about developments in scientific and technical fields relevant to the Treaty, its goals, objectives and implementation;

(b) Support capacity-building in States parties, including through scientific and technical engagement with scientists, academia and civil society organizations, including individuals from communities affected by nuclear weapons, about the technical issues related to Treaty implementation, the humanitarian consequences and risks associated with nuclear weapons and the related humanitarian response challenges;

(c) Upon request by the States parties or upon recommendation by the Group, provide scientific and technical advice on matters related to the Treaty and nuclear disarmament and non-proliferation more widely, as well as on the humanitarian consequences of and risks associated with nuclear weapons and related humanitarian response challenges to States parties, to the President and subsidiary bodies established by Meetings of States Parties;

(d) When directed by the Meeting of States Parties or Review Conference, provide advice and make recommendations to be considered at Meetings of States Parties or Review Conferences, taking account of any relevant scientific and technical developments for the purpose of assisting in the review of the operation of the Treaty;

(e) When directed by the Meeting of States Parties or Review Conference, assess and report on the scientific and technical merit of a present, or proposed, approach or methodology for implementation of the Treaty;

(f) Coordinate the efforts of specialist scientific or technical working groups temporarily established in accordance with its rules of procedure;

² Working paper submitted by the President-designate on institutionalizing scientific and technical advice for the effective implementation of the Treaty on the Prohibition of Nuclear Weapons, (TPNW/MSP/2022/WP.6).

³ TPNW/MSP/2022/6, annex II.

(g) Provide a report on the Group's meetings and detailing its annual activities to the President for circulation prior to Meetings of States Parties or Review Conferences.

6. The following persons were appointed as members of the Group in their personal capacities following their nomination by States parties:

- Kouamé Rémi Adjoumani
- Bashillah Bt. Baharuddin
- Erlan Batyrbekov
- André Johann Buys
- Jans Fromow-Guerra
- Bwarenaba Kautu
- Moritz Kütt
- Patricia Lewis
- Zia Mian
- Ivana Nikolic Hughes
- Sébastien Philippe
- Petra Seibert
- Noël Francis Stott
- Gerardo Suárez Reynoso
- A. K. M. Raushan Kabir Zoardar

7. The term of office began on 8 February 2023 and will end on the final day of the first Review Conference.

III. Organization of work of the Scientific Advisory Group

8. In the period February–October 2023, the Group held nine online meetings and one hybrid meeting with 10 members participating in person.

9. At its first meeting, on 1 March 2023, the Group was hosted by the President of the second Meeting of States Parties, Ambassador Juan Ramón de la Fuente (Mexico), and received a comprehensive briefing from the Office for Disarmament Affairs on the Group's mandate, deadlines for reporting, work to be undertaken, etc.

10. At this meeting, members of the Group elected Patricia Lewis and Zia Mian as Co-Chairs.

11. Also discussed were methods of work, including a platform for virtual meetings and collaboration, the need to establish informal working groups, working language, record keeping, a broad programme of work and that, where necessary, representatives of specialized agencies would be requested to brief the Group on particular topics of relevance to the Group's work and to the Treaty as a whole.

12. At its meeting on 3 April 2023, the Group established two informal working groups, which met, as and when required, with respective co-conveners:

(a) Informal Working Group 1: Advancing treaty goals and implementation – nuclear weapons status; nuclear weapon risks; the humanitarian consequences of nuclear weapons; nuclear disarmament and related issues;

(b) Informal Working Group 2: Scientific network building – identify and engage scientific and technical institutions in States parties and more broadly establish a network of experts to support the goals of the Treaty.

13. The following three meetings (1 May 2023, 5 June 2023, 3 July 2023) included:

(a) Presentations on the following: the status of nuclear forces and the role of nuclear weapons; the work of the informal working group on the implementation of article 4; the changing risks of nuclear weapons; and the humanitarian consequences of nuclear weapons testing. These were given by Hans Kristensen, Moritz Kütt, Patricia Lewis, Ivana Nikolic Hughes and Sebastien Philippe respectively;

(b) Discussions of “food-for-thought” papers produced by members on the proposed chapters for the substantive report to be submitted to States parties. These included: the status of International Atomic Energy Agency (IAEA) safeguards agreements in place for non-nuclear-possessing States; the status of Agency safeguards in nuclear-armed States under voluntary offer agreements; the two most recent United Nations Secretary-General groups of governmental experts dealing with nuclear disarmament verification; as well a background paper on the experience and lessons from the nuclear disarmament of South Africa; and, on the Preparatory Commission for the International Monitoring System of the Comprehensive Nuclear-Test-Ban Treaty Organization;

(c) Ideas on how best to identify and engage scientific and technical institutions in States parties and more broadly to establish a network of experts to support the goals of the Treaty on the Prohibition of Nuclear Weapons were developed through the drafting of a proposed mission statement, outlining its purpose, composition, activities and support mechanism (see below).

14. At the sixth (hybrid) meeting, which was held in Vienna on 4 August 2023, the Group discussed in detail draft chapters for the group’s substantive report (see below) and continued its discussions on how best to establish a network of scientific and technical research institutions and experts in support of the Treaty.

15. At the seventh, eighth and ninth meetings (4 September and 2 and 9 October 2023) the Group finalized the content of the reports to be submitted to the second Meeting of States Parties.

16. A tenth meeting is planned for 6 November 2023, to discuss the Group’s activities at the second Meeting of States Parties. There also will be an in-person (hybrid) meeting during the second Meeting of States Parties.

17. In addition, on 30 May 2023, the Vienna Center for Disarmament and Non-Proliferation hosted a seminar on the Treaty and its nexus with Vienna-based international organizations. Speakers included: Dell Higgie, Ambassador of New Zealand to Austria and Permanent Representative to the United Nations in Vienna, Permanent Mission, Vienna; Zia Mian, Princeton University, Co-Chair of the Group; Tariq Rauf, former Head of Verification and Security Policy Coordination, International Atomic Energy Agency; Laura Rockwood, Non-Resident Senior Fellow, Vienna Center for Disarmament and Non-Proliferation, and former Section Head for Non-Proliferation and Policy in the International Atomic Energy Agency Office of Legal Affairs and Gaukhar Mukhatzhanova, Director of the International Organizations and Non-Proliferation Program, Vienna Center for Disarmament and Non-Proliferation. The speakers analysed the Treaty obligations, the work of the Scientific Advisory Group, the technical and legal considerations of IAEA involvement in the implementation of the Treaty on the Prohibition of Nuclear Weapons and the interface between the Treaty and other international bodies, including the Preparatory Commission for the Comprehensive Nuclear-Test-Ban

Treaty Organization and the United Nations Scientific Committee on the Effects of Atomic Radiation.

18. The Group received financial support from Austria and from New Zealand to support in-person meetings, including at the second Meeting of States Parties. The Princeton University Program on Science and Global Security provided financial, administrative and communication support. Several members of the Group received support from their respective institutions.

IV. Coordinating Committee

19. As Co-Chairs, Patricia Lewis and Zia Mian are invited to participate in the meetings of the intersessional Coordinating Committee.

V. Report on Nuclear Weapons Issues to the Second Meeting of States Parties

20. In decision 2 of the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons, the Meeting of States parties called for the Scientific Advisory Group to report to the second Meeting of States Parties on the status and developments regarding nuclear weapons, nuclear weapon risks, the humanitarian consequences of nuclear weapons, nuclear disarmament and related issues.⁴

21. The present report, which is submitted as a separate document, covers the above-mentioned issues. It also highlights opportunities for research, including by international bodies, to generate and make available up-to-date knowledge, especially on the humanitarian consequences of nuclear weapons use and testing, victim assistance, environmental remediation and verification of the elimination of nuclear weapons programmes in an irreversible and transparent manner. Such additional research, including updating past studies by international bodies, could significantly enhance the current understanding of these issues.

VI. Establishing a network of experts to support the goals of the Treaty

22. With a view to contributing to capacity-building, in decision 2 of the first Meeting of States Parties to the Treaty on the Prohibition of Nuclear Weapons, the Meeting of States parties also decided that the Scientific Advisory Group would identify and engage scientific and technical institutions in States parties and more broadly to establish a network of scientific and technical experts to support the goals of the Treaty.⁵

23. This task follows the recognition by States parties that a shared understanding of the humanitarian impacts of nuclear weapons and of their risks, and of disarmament verification and other issues relevant to the Treaty, is underpinned and supported by a body of science and technical knowledge developed over decades and that this understanding should constantly advance to reflect current science and the gaps and uncertainties that require attention.

⁴ [TPNW/MSP/2022/6](#), annex III, decision 2 (j).

⁵ Ibid.

24. The process so far undertaken by the Group to fulfil this mandate includes the consideration of the network's potential terms of reference, mission, composition, principles of management and indicative activities.
25. These considerations take into account that the purpose of the network is to support the goals of the Treaty through research or other science-based activities.
26. Furthermore, in order to maintain the integrity of the Treaty, it is important that network members are not subject to conflicts of interest with respect to supporting the goals of the Treaty.
27. In this regard, the Group has embarked on a scoping exercise of organizations and experts undertaking research or other activities of relevance to the Treaty on the Prohibition of Nuclear Weapons.
28. As an interdisciplinary scientific and technical forum composed of a regionally and thematically diverse pool of institutions and individual experts, the network's purpose will be to:
- (a) Provide a broader knowledge base for the Group and the States parties to draw on as they work towards the implementation of the Treaty's provisions;
 - (b) Serve as a collaborative platform for enhancing scientific capacities to support the goals of the Treaty.
29. The Group is currently considering various approaches to establishing the network through a phased evolutionary process, consistent with the resources that will be needed to be made available to establish, administer, grow and sustain the network in the long term.
30. It is envisaged that, once established, network members, on a voluntary basis, may engage in a broad range of research, capacity-building, outreach, educational and cooperation activities, depending on the composition of the network and available resources.
31. In the light of the above, further work is required by the Group in collaboration with States parties and others to identify mechanisms, a suitable structure and adequate resources to establish and manage the network and its work so that it can be an effective, sustainable and independent source of broad-based scientific and technical expertise in support of the Treaty and its goals.

VII. Activities of the Scientific Advisory Group in 2024

32. Looking ahead, the Group will continue to monitor and report on the status and developments regarding nuclear weapons, nuclear weapon risks, the humanitarian consequences of nuclear weapons and nuclear disarmament and related issues. Further research is needed on all these issues.
33. The Group will continue to identify and clarify the scientific and technical research needs relevant to the implementation of the Treaty in all its aspects and to engage with States parties and the intersessional process to provide advice and assistance upon request.
34. The Group will work with States parties to identify and engage with scientific and technical experts and institutions, and to facilitate the establishment of a network of experts to support the goals of the Treaty, based on the progress made so far.
35. The Group will participate as appropriate in the intersessional processes put in place after the second Meeting of States Parties and in discussions and consultations with States parties and other relevant bodies.

36. The Group's preparations for its work in this period will take into account the expertise of its members in relevant scientific fields experience from the first year, the decisions of second Meeting of States Parties, the intersessional processes leading up to the third Meeting of States Parties and the Review Conference, constraints on financial and administrative resources and other relevant factors.
