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International Partnership for Nuclear Disarmament Verification: 10 years of progress

Working paper submitted by Switzerland and the United States of America

Introduction

1. The International Partnership for Nuclear Disarmament Verification brings together 30 countries¹ and the European Union, working collaboratively to identify and develop practical solutions to the challenges of effective multilateral nuclear disarmament verification. The year 2024 marks the tenth anniversary of this initiative, which concretely advances the nuclear disarmament goals of article VI of the Treaty on the Non-Proliferation of Nuclear Weapons and the conclusions and recommendations of the final document to the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons. The United States and Switzerland jointly hosted an event in Geneva in June of this year to commemorate this important milestone.

2. The International Partnership for Nuclear Disarmament Verification was established in December 2014 on the principle that all countries – with and without nuclear weapons – have a role to play in identifying and developing effective measures for multilateral nuclear disarmament verification. For the past 10 years, the diverse and growing group of partner countries has developed and honed a toolkit of verification options and strengthened international technical capacity in the nuclear disarmament verification field. In this sense, the Partnership's work has not only advanced technical and conceptual approaches through which to verify nuclear disarmament but also serves an important disarmament education function. The Partnership's commitment to maintaining an inclusive and collaborative process has built trust and transparency among the many technical and policy experts who participate and the countries that they represent.

¹ Argentina, Australia, Belgium, Brazil, Canada, Chile, Finland, France, Germany, Holy See, Hungary, Indonesia, Italy, Japan, Jordan, Kazakhstan, Mexico, Netherlands, Nigeria, Norway, Philippines, Romania, Poland, Sweden, Republic of Korea, Switzerland, Turkey, United Arab Emirates, United Kingdom and United States.



Organizing for success

3. The International Partnership for Nuclear Disarmament Verification's three phases of work have each centred on a different theme and involved working groups to explore specific issues within each theme.

Phase I

4. In phase I, the partners created a conceptual road map represented by a 14-step process model of the dismantlement life cycle of a nuclear warhead. This focus was based on the assessment that the verified dismantlement of nuclear weapons is the most essential and most challenging task of nuclear disarmament verification. The partners established working groups on monitoring and verification objectives, on-site inspections, and technical challenges and solutions.

Phase II

5. During phase II, the partners employed a series of exercises and technology demonstrations to further explore the conceptual road map developed in phase I: moving from paper to practice. Working groups focused on verification of nuclear weapons declarations, verification of reductions, and technologies for verification. By the end of phase II, the Partnership had built a toolkit of potential verification measures that had been tested and refined through a series of exercises and technical demonstrations. In parallel with these activities, partner countries carried out additional national and joint activities that further refined the work completed to date.

Phase III

6. In the initial stages of phase III, the partners continued to use exercises and realistic demonstrations to further deepen their understanding of the impact of conducting verification activities in an operational environment. An inspector task group and a host task group were created to explore these operational complexities from the perspective of inspectors and host countries, respectively. These task groups were again supported by a technology-focused working group (the Technology Track), which delved into the types of inspection equipment needed to conduct effective nuclear disarmament verification.

Changes in phase III

7. After two years of work under this construct, the Partnership reorganized into four working groups that explored these operational issues in even greater detail and allowed the partners to take separate but complementary approaches. The Reductions Working Group and the Limitations Working Group investigate the implementation of verification measures through a scenario involving a notional nuclear-weapon State, "Ipindovia". The Reductions Working Group considers issues related to Ipindovia reducing its arsenal from 500 nuclear warheads to zero, while the Limitations Working Group considers issues related to Ipindovia maintaining its arsenal at 500 nuclear warheads. In both scenarios, Ipindovia is one of several States parties to an agreement that establishes these reductions and limitations.

8. In addition to these scenario-based groups, two working groups explore more cross-cutting issues applicable to both. The Concepts Working Group is addressing overarching issues related to each of these scenarios, for example designing a systems approach to verification and assessing the impact of alternate verification measures on confidence. The Technology Track established at the beginning of phase III continues to assess technologies needed to implement the monitoring and inspection measures within the verification toolkit identified by the Partnership.

9. While the third phase of the International Partnership for Nuclear Disarmament Verification's work is planned to conclude in 2025, partners are already considering how best to direct their efforts in a phase IV. The conceptual and technical challenges involved in the verification of nuclear disarmament are significant, and thus there is much work yet to be done.

Key judgment

10. After a decade of detailed work addressing both the technical and procedural challenges of verifying more intrusive nuclear disarmament activities, the International Partnership for Nuclear Disarmament Verification has successfully identified a substantial toolkit of monitoring and inspection processes, procedures, techniques and technologies to verify the reduction and dismantlement of nuclear warheads or limitations on nuclear warheads.

Learn more

11. The International Partnership for Nuclear Disarmament Verification has produced a report, "Verification of nuclear disarmament: insights from a decade of the International Partnership for Nuclear Disarmament Verification", to provide a detailed exploration of its work to date. The report highlights the partners' progress in:

- Developing a set of verification concepts and models to guide the development and implementation of nuclear disarmament verification mechanisms
- Identifying, assessing and testing a broad spectrum of verification measures and technology options for use in meeting future monitoring and inspection requirements
- Identifying and testing a set of managed access procedures to ensure that proliferation-sensitive and other sensitive information is effectively protected during nuclear disarmament verification activities
- Building necessary international capacity as a foundation for multilateral verification, reflecting the recognition that every country has a role to play in the verification of future nuclear disarmament agreements
- Evaluating and optimizing the overall effectiveness and efficiency of a prospective monitoring and verification system as a whole
- Continually adapting its activities to address new issues and problems, carrying forward its founding mission of understanding the technical and procedural challenges for the effective verification of nuclear disarmament and developing practical solutions for those challenges

Conclusion

12. As the International Partnership for Nuclear Disarmament Verification celebrates its tenth anniversary, the partners have engaged in effective measures towards advancing their disarmament-related obligations under the Non-Proliferation Treaty through their participation in this important initiative.

13. While the current phase of its work will wrap up at the end of 2025, much work remains to be done. All of the partners are committed to continuing our work, looking to launch phase IV in early 2026. It is equally important for all States to continue to support additional work regarding nuclear disarmament verification in other forums. The Review Conference should endorse such work.

14. Although additional conceptual and technology development work remains to be done, the Partnership's results lay the groundwork for multilaterally verified

nuclear disarmament while effectively managing safety, security, non-proliferation and classification concerns. The Partnership's work will stand as an important resource for current and future arms control negotiators and can help to provide essential verification confidence and assurance to all countries.
