



**Summary Report
of the IPNDV Joint Working Group Meeting
Helsinki, Finland**

March 4-7, 2019



The International Partnership for Nuclear Disarmament Verification (IPNDV - “the Partnership”) held its latest Joint Working Group Meeting in Helsinki, Finland, March 4-7, 2019. More than 85 experts from 20 countries and the European Union participated. During this meeting, the Working Groups continued along their respective programs of work and began to refine the products they will deliver at the conclusion of Phase II. Summaries of the outcomes of each of the Working Groups and the Exercise/Demonstration Planning Group follow below.

In addition to their respective programs of work, each of the Working Groups held preliminary discussions on possible areas for future work of the Partnership in a Phase III. Those discussions will continue at the next Joint Working Group Meeting in the Netherlands in June 2019.

Working Group 4 - Verification of Nuclear Weapon Declarations (Co-Chairs: The United Kingdom and Poland)

During the Joint Working Group Meeting in Helsinki, Working Group 4 (WG4) discussed a number of papers that had been prepared intersessionally following the Plenary Meeting in London in December 2018. These included papers on how to verify the absence of weapons at non-declared sites, requirements for information sharing prior to inspections, evaluating confidence in compliance, key terms, resolving ambiguities, as well as a draft of the first section of the final Phase II deliverable, which covers the role and objectives of declarations in different phases of disarmament.

A detailed discussion was also held to review the outcomes of the tabletop exercise held in London in December 2018 exploring transferable verification concepts from the CFE Treaty. Key concepts and lessons learned from the exercise will form the basis of the group’s core deliverable on verifying declarations of numbers of weapons at declared locations. It was determined the work of the rest of Phase II would now focus on completing the final deliverables.

In discussions about the next phase of the Partnership, WG4 members advocated for a shift towards a scenario-based approach, to test and validate lessons learned from the work of IPNDV across both Phase I and Phase II, as well as help identify key remaining verification challenges. It was felt this should include more practical activities, which could include tabletop exercises, material measurements, or other technical hands-on work. WG4 members also discussed the potential benefits of diversifying membership, most notably the increased participation of NGOs and academics under the invitation of State delegations.

Working Group 5 - Verification of Reductions (Co-chairs: The Netherlands and Australia)

Working Group 5 continued to refine its deliverable products. First, the group addressed its paper on the 14-step nuclear weapons dismantlement process, or “the 14-Step Process” depicted

in Annex 1 (Deliverable 1), including by setting out technology options to support inspections at each step and to develop WG5's analysis on aspects of verification that are relevant for multiple steps. A joint session was held with Working Group 6 to discuss the best approaches to incorporate technology options into the paper.

The paper on the disposition step of the 14-Step Process (Deliverable 2) was discussed in a joint session with Working Group 6 and it was agreed that the next iteration of the paper should evaluate each of the disposition options using criteria such as verifiability, safeguardability, irreversibility, economic attractiveness and interests of the owner of the material. The "Achieving Irreversibility in Nuclear Disarmament" annex to a Phase 1 paper on irreversibility was also discussed.

The draft paper, "Elements and Options for Future Practical Arrangements for Multilateral Verification" (Deliverable 3), was discussed and will continue to be developed in consultation with Working Group 4.

Working Group 6 - Technologies for Verification (Co-chairs: Sweden and the United States)

During the Joint Working Group meeting in Helsinki, Working Group 6 (WG6) continued preparations for the Phase II practical activities, engaged with other members of the Partnership on applying technology throughout the 14-step process, and developed concrete plans for their deliverables for the end of the phase.

Two joint sessions were held with Working Group 5 (WG5). In the first session, the groups discussed the best approaches to consider technologies across the 14 steps in support of the WG5 deliverable which will map these steps, while the second session was a deep dive on disposition (step 14).

During sessions among WG6, colleagues from Norway shared a presentation about the Black Sea experiment and its applicability to IPNDV's discussions, and colleagues from the Netherlands and Germany shared a paper about absence measurements and when to end monitoring of non-nuclear components. There were also presentations from colleagues from Belgium and Canada about the WG6 technology demonstrations scheduled for September and October/November 2019, respectively. WG6 members also took time to discuss next steps to finalize the technology spreadsheets, or the toolkit of potentially applicable technologies that could support verification of nuclear weapon dismantlement. This coincided with a detailed discussion about the various deliverables that WG6 plans to produce at the end of this phase.

In discussions about the next phase of the Partnership, WG6 members advocated for the continuation of a technology focused group and more plans for practical activities, such as technology demonstrations, that build on the work done in IPNDV's first two phases.

Exercise/Demonstration Planning Group

The Exercise/Demonstration Planning Group met once during the Helsinki meeting. The Group is coordinating the planning of several exercise/demonstration activities in 2019. Specifically, the participants discussed ongoing planning for the following activities:

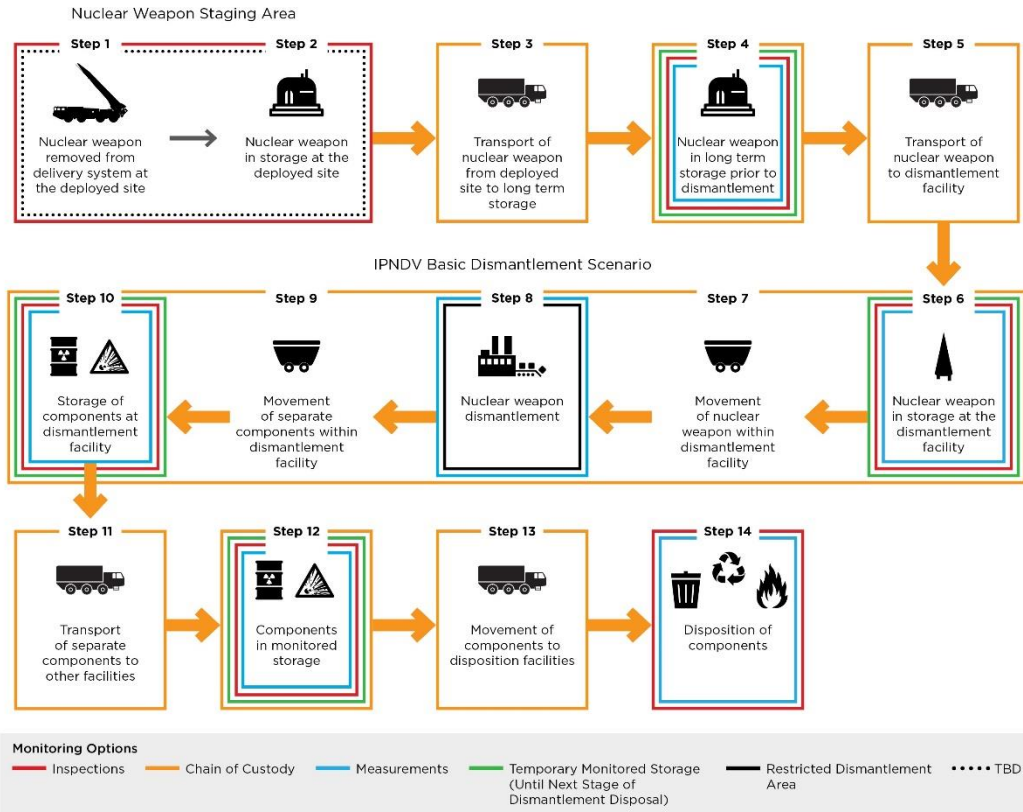
- France and Germany will jointly host the “NuDiVe” exercise in September that focuses on potential procedures and technologies to verify the dismantlement of a nuclear weapon occurring in step 8. In this scenario, dismantlement is defined as the separation of the SNM and HE in the weapon. The French and German organizers updated participants on the status of planning and are beginning the process of assigning volunteers to the various teams that will participate in the exercise.
- The Partners will conduct a day-long “Walkthrough” tabletop-style exercise in June. This Walkthrough will examine potential inspection techniques, procedures and technology identified by the Partners during Phase I and II, as well as examining cross-cutting issues related to both nuclear weapon dismantlement and the broader verification of a states’ declaration of the total number of its nuclear weapons. The organizers briefed each of the Working Groups on the planned structure and approach of the Walkthrough which raised specific questions related to each Group’s work. In addition, a number of cross-cutting suggestions were offered, including to make use of scenarios to help structure the discussion and highlight issues that would integrate perspectives across Working Groups.
- Belgium will host a technology demonstration assessing various methods to detect the presence/absence of nuclear material during the dismantlement process. The organizers continue their planning and are aiming to conduct their demonstration in September 2019.
- Canada will host a technology demonstration assessing the potential for detection of SNM by muon scattering and made their initial presentation to the Partners.

Summary

The meeting in Helsinki served as a productive review of the ongoing work in Phase II. While there remains a great deal to be done, the Working Groups took strong, positive steps towards the development of their final Phase II products. At the next Joint Working Group meeting in the Netherlands, the Working Groups will continue their work, and begin to finalize their products to be published following the conclusion of Phase II in December 2019.

Annex 1- 14 Steps in Nuclear Weapons Dismantlement

MONITORING AND VERIFICATION ACTIVITIES, AS IDENTIFIED BY THE IPNDV, FOR KEY STEPS IN THE PROCESS OF DISMANTLING NUCLEAR WEAPONS



*We make the assumption that there will be declarations at each step in the process.