

Lessons from Training, Dialogue and Research: The VCDNP's Contribution to Nuclear Governance

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I. Introduction

Since its opening in 2011, the Vienna Center for Disarmament and Non-Proliferation has served as a hub for training, results-oriented dialogue and research on non-proliferation and disarmament, in particular on the so-called “Vienna issues,” which are relevant for the international organisations and the diplomatic community in Vienna, Austria. The VCDNP works closely with the international organisations in Vienna, as well as the diplomatic community, to maximise its contribution to the global non-proliferation regime.

This paper gives a brief overview with illustrative examples of the three main lines of the VCDNP's work, namely training, dialogue and research. It also includes brief takeaways from the VCDNP's ten-year experience in the field of nuclear non-proliferation and disarmament.

II. Training Diplomats and Practitioners

Twice per year, the VCDNP conducts intensive short courses on non-proliferation and disarmament issues for diplomats and practitioners in the nuclear field. Since the Center opened in 2011, it has held 21 such courses, which targeted diplomats posted in Vienna who are often new to both the technical and political aspects of nuclear issues.¹ This flagship course also targets diplomats and practitioners based in other duty stations and in national capitals, including nuclear regulators and officials from national ministries of energy, foreign affairs and defence.

In all of its training activities, the VCDNP is committed to ensuring maximum participation from developing countries, as well as gender parity as possible in each course. Since 2011, the VCDNP has trained over 500 professionals in this flagship course, over 70 percent of whom have been from developing countries and over 40 percent have been women.

The courses cover a wide range of issues, including: the non-proliferation regime at large; the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and its review process; disarmament machinery, historical developments and recent disarmament initiatives; nuclear energy and the nuclear fuel cycle; nuclear safeguards, nuclear security and strategic trade controls; nuclear arms control historically and today; the peaceful uses of nuclear science and technology; nuclear-weapon-free zones; regional case studies, including North Korea and Iran; and the work of the international organisations in Vienna.

To measure the impact of the VCDNP courses and the trajectory of participants' careers, the VCDNP conducts an anonymous questionnaire at the end of each course and periodically follows up with alumni with additional surveys. The results of this outreach have been overwhelmingly positive. At the end of courses, participants have expressed some of the following views:

¹ Online Resources and Course Reports. Available at: <https://vcdnp.org/courses-2/>.

- *“It [the course] is a must for diplomats whom are posted in Vienna to work on IAEA issues and all matters related to disarmament and non-proliferation.”²*
- *“... the course helped me to better understand the various Vienna-based organizations, and how they relate to one another. It also helped me to understand some key policy sticking points among various nations, which provides better context to how different states perceive things within the organizations.”³*
- *“At the ministry, I used to work on disarmament looking at the matter only from a political point of view. My vision was limited and I thought that nonproliferation solely constituted a problem to a limited number of countries. Now, I know that it is a global problem which requires global commitment to be better dealt with.”⁴*

The VCDNP began to expand its training activities to include two specialised courses in February and June of 2019 that focused on nuclear security⁵ and safeguards⁶ respectively. The two courses were planned and implemented in close cooperation with the International Atomic Energy Agency (IAEA) and, as with the flagship course, the VCDNP placed priority on including representatives from developing countries. A second round of specialised courses on nuclear security and IAEA safeguards are planned for 2021 and 2022. At the request of the Vienna diplomatic community, the VCDNP has also held one mini-course for ambassadors who have newly arrived in Vienna, which included 25 ambassadors.

In addition, as one of six institutions that comprises the EU Non-Proliferation and Disarmament Consortium, the VCDNP has established a separate series of courses aimed at bridging the gap between the policy and technical worlds at the graduate and post-graduate levels in European universities. The first course⁷ targeted students in the fields of information technology and engineering and the second⁸ targeted students of biological and chemical sciences. These courses focused on bringing the global non-proliferation regime into perspective for the next generations of technical specialists who may not be aware of the non-proliferation implications of their respective fields. A third course under this line of work is planned for 2022.

In 2018, the VCDNP was recognised for its contribution to disarmament and non-proliferation capacity-building in UN General Assembly resolution 73/73 as the only non-governmental organisation mentioned in the resolution along with the IAEA, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), the Organisation for the

² October 2016 Nuclear Non-Proliferation and Disarmament Short Course. Available at: <https://vcdnp.org/october-2016-nuclear-non-proliferation-and-disarmament-short-course/>.

³ Fall 2020 Nuclear Non-Proliferation and Disarmament Short Course. Available at: <https://vcdnp.org/fall-2020-nuclear-non-proliferation-and-disarmament-short-course/>.

⁴ VCDNP and CNS Conduct First Course on Nonproliferation and Disarmament for Diplomats in Vienna. Available at: <https://vcdnp.org/vcdnp-and-cns-conduct-first-course-on-nonproliferation-and-disarmament-for-diplomats-in-vienna/>.

⁵ VCDNP/CNS Nuclear Security Professional Development Course. Available at: <https://vcdnp.org/vcdnp-cns-nuclear-security-professional-development-course/>.

⁶ VCDNP Course on “Safeguards for Policymakers: What You Need to Know.” Available at: <https://vcdnp.org/vcdnp-course-on-safeguards-for-policymakers-what-you-need-to-know/>.

⁷ Short Course on The Spread of Nuclear Weapons: History, Threats and Solutions. Available at: <https://vcdnp.org/february-short-course-on-the-spread-of-nuclear-weapons-history-threats-and-solutions/>.

⁸ February 2021 Introductory Course on the Proliferation of Weapons of Mass Destruction. Available at: <https://vcdnp.org/february-2021-introductory-course-on-the-proliferation-of-weapons-of-mass-destruction/>.

Prohibition of Chemical Weapons, the Organization for Security and Cooperation in Europe and International Court of Justice.⁹

Aside from the VCDNP's core programmes, the Center has also implemented other training activities, including workshops for journalists who cover non-proliferation subject matter. These workshops have been conducted since 2014 on an ad hoc basis in cooperation with the Atomic Reporters and the James Martin Center for Nonproliferation Studies.

III. Convening Results-Oriented Dialogue

Given its close ties to the diplomatic community, the IAEA, the CTBTO and other international organisations in Vienna, the VCDNP functions as a convener and platform for dialogue that brings together these different stakeholders. The VCDNP also brings technical experts and policymakers together to promote technically informed policy dialogue. These discussions provide an opportunity to reach across traditional divides and break silos to have meaningful exchanges on nuclear issues. This line of work is especially impactful in promoting frank discussion in a setting where stakeholders can have confidence that discussions are not-for-attribution and off-the-record.

An example of this work is an ongoing VCDNP project with the aim to promote better understanding of the sustainable use of nuclear and other radioactive materials for peaceful purposes, as well as to build bridges between countries' views on nuclear security.¹⁰ It facilitates a better understanding by IAEA Member States of nuclear security, the common objectives of nuclear safety and nuclear security, the interplay between technical cooperation and nuclear security, and Member State concerns regarding the role of nuclear security. It also provides increased opportunities for constructive engagement between Member States on nuclear security and related issues. As a part of this project the VCDNP has convened 10 workshops since 2018, as well as conducted one public webinar and published numerous case studies, reports and fact sheets. These activities have contributed to developing a better understanding among Member States of nuclear security as integral to peaceful uses instead of a competing priority, and it has directed more attention to the peaceful uses pillar of the NPT ahead of its 10th Review Conference.

Another example of the VCDNP's convening power and ability to gather different stakeholders was a series of three workshops held between April 2019 to November 2020 on work that could be done in order to strengthen nuclear safeguards and export controls in managing new challenges posed by advanced nuclear and emerging technologies.¹¹ These workshops brought together more than 50 experts from the IAEA, nuclear supplier governments, industry representatives and research institutions to examine nuclear and nuclear-related technologies that have not been comprehensively reviewed and addressed by existing nuclear governance regimes, as well as technologies that are not nuclear-related but that have potential impacts on nuclear safeguards and export controls. The workshops covered a wide range of technologies, including but not limited to advanced reactors, accident-tolerant fuels, additive manufacturing, cloud computing, artificial intelligence and distributed ledger technologies. Participants also discussed the impact of these

⁹ United Nations General Assembly Resolution 73/73 (A/RES/73/73). Available at: <https://undocs.org/en/A/RES/73/73>.

¹⁰ On the Peaceful Uses of Nuclear Energy and Nuclear Applications and the Role of Nuclear Security. Available at: <https://vcdnp.org/on-the-peaceful-uses-of-nuclear-energy-and-nuclear-applications-and-the-role-of-nuclear-security/>.

¹¹ Recommendation Paper from the Advanced Nuclear and Emerging Technologies Workshop Series. Available at: <https://vcdnp.org/emerging-tech-workshop-recs/>

technologies on regulators, industry, exports and export control compliance. With a view for future actions, a final workshop focused on the potential of codes of conduct and partnership with industry on safeguards and export controls.

The VCDNP has also organised and hosted numerous so-called track 1.5 meetings that bring together representatives from national governments and the non-governmental expert community to discuss critical issues in the nuclear space, such as US-Russia strategic stability.

Finally, the VCDNP holds ad hoc high-level events, often at the behest of diplomatic missions and international organisations in Vienna, to advance dialogue on important topics. In January 2020, the VCDNP held a panel discussion ahead of the 2020 IAEA Conference on Nuclear Security (ICONS) featuring several ambassadors and the IAEA Director General to discuss key issues still to be finalized before the conference, including the ministerial declaration, their expectations of the overall outcome of the conference and the future direction of nuclear security efforts.¹² The pre-ICONS event helped to set the scene for the conference and allowed for important dialogue about priorities for the conference and beyond among key stakeholders from IAEA Member States.

More recently, the VCDNP held a high-level series of panel discussions in January 2021, focusing on strengthening the Comprehensive Nuclear-Test-Ban Treaty (CTBT) and its verification regime.¹³ The event was held at the request of and in cooperation with the CTBT Art. XIV Process Co-Chairs Algeria and Germany as well as the Provisional Technical Secretariat of the CTBTO in order to raise the profile of the CTBTO's important mission ahead of the 25th anniversary of its opening for signature.

For both of these events, the VCDNP played a critical role as a unbiased convener and facilitator of frank dialogue among key stakeholders. The CTBT event was conducted virtually and drew more than 500 participants from countries across the globe. In this regard, the COVID pandemic played a positive role in the ability to reach larger and more diverse audiences.

IV. Conducting Impactful Research

The VCDNP's current research agenda is focused on a number of issues, including but not limited to IAEA safeguards and the universalisation of nuclear security standards. In conceiving new research projects, the VCDNP endeavours to maximise the impact that the research it conducts can have on concrete problems that are of interest to its constituents and stakeholders.

An ongoing project at the VCDNP focuses on States' experiences in implementing Convention on the Physical Protection of Nuclear Material (CPPNM) and its Amendment.¹⁴ The CPPNM closes important gaps in the physical protection of nuclear material and facilities as well as introduces other nuclear security-related measures. While in force since 2016, the Amendment is not yet universally applied, as it only has 124 States Parties, plus Euratom. As a part of the CPPNM project, the VCDNP conducted a high-level, two-day workshop to facilitate an exchange between States

¹² Towards Ambitious and Forward-Looking ICONS 2020. Available at: <https://vcdnp.org/towards-ambitious-and-forward-looking-icons-2020/>.

¹³ Strengthening the CTBT and Its Verification Regime. Available at: <https://vcdnp.org/strengthening-the-ctbt-and-its-verification-regime/>.

¹⁴ States Parties' Experience in Implementing the Amendment to the CPPNM. Available at: <https://vcdnp.org/states-parties-experience-in-implementing-the-amendment-to-the-cppnm/>.

on their experiences in implementing the Convention and its Amendment. A written report on the project's findings is forthcoming, though several States, which are not yet party to the CPPNM and its Amendment contacted the VCDNP for information on how to join the Convention and what assistance is available in this regard. Preliminary findings of the study reveal that key challenges to its universalisation include: (1) inadequate knowledge among non-adherent States about Amendment provisions and the domestic changes they entail; (2) lack of internal resources for effective implementation; and (3) low awareness about international tools and assistance available for implementation.

Another research project, concluded in December 2020, focused on the evolution of IAEA safeguards in the context of the State-level concept (SLC) for safeguards.¹⁵ Using extensive archival research and expert interviews, the resultant report details the evolution of safeguards from the IAEA's inception in 1957, through the approval of the Model Additional Protocol in 1997, and the development of integrated safeguards, individual State-level approaches and the SLC in the 2000s and 2010s. Key takeaways from this research include: (1) the critical importance of clear communication in consultations with Member States; (2) respecting the balance between the IAEA's responsibility for the technical work of implementing safeguards and the Member States' responsibility in making policy decisions that affect that work; (3) ensuring that consultations with Member States take place frequently as concern evolutions in safeguards concepts; and (4) ensuring robust education and training activities on safeguards history for Member State diplomats and practitioners.

In 2019, the VCDNP also published a comprehensive review of the state of safeguards, accounting both for long-standing challenges and opportunities for the IAEA safeguards ecosystem, as well as new and emerging challenges and opportunities.¹⁶ The report, entitled "IAEA Safeguards: Staying Ahead of the Game," offers 47 recommendations related to the legal framework, universalization of APs, implementation of safeguards, strengthening support to the IAEA, updating the Model Additional Protocol Annexes, improving the administration and funding for safeguards, and addressing challenges posed by emerging nuclear and dual-use technologies. The report continues to serve as a resource for international civil servants and IAEA Member State representatives alike to understand the issues facing IAEA safeguards and the ways in which those issues might be addressed.

¹⁵ Noah Mayhew, "A Lexical History of the State-Level Concept and Issues for Today," Available at: <https://vcdnp.org/a-lexical-history-of-the-state-level-concept-and-issues-for-today/>.

¹⁶ Laura Rockwood, Noah Mayhew, Artem Lazarev and Mara Pfneisl, "IAEA Safeguards: Staying Ahead of the Game," Swedish Radiation Safety Authority, September 2019. Available at: <https://vcdnp.org/vcdnp-report-on-iaea-safeguards-staying-ahead-of-the-game/>.

V. Lessons Learned

In 2021 the VCDNP celebrates a decade of implementing training programmes, convening results-oriented discussions, and conducting impact-driven research. Over this time, the VCDNP Team has learned important lessons related to the impact that non-governmental organisations can have on nuclear governance discourse. Some of these lessons are longstanding, while others came to light because of adjustments that had to be made due to the COVID-19 pandemic.

The Power of Non-Proliferation Education and Training

In 10 years of implementing training programmes on non-proliferation issues, the impact of such training programmes has become clear. Most diplomats arrive to Vienna with no experience in nuclear issues and lack the opportunity to learn the basics of the field before beginning their postings. Many missions in Vienna, especially those from developing countries, have no more than one or two staff members covering multiple multilateral and often bilateral issues as well. As a result, these diplomats often engage with important issues in a superficial manner. Furthermore, there is a regular turnover of diplomats in Vienna which necessitates constant availability of education and training programmes.

In this regard, the VCDNP's training programmes have made a significant impact on the ability of developing countries to participate effectively in the work of the international organisations. Understanding the needs of the Vienna diplomatic community and delivering on them has been a critical lesson as the VCDNP continues to implement training programmes. The mini-course for Vienna-based ambassadors, conducted at the suggestion of Vienna-based diplomats themselves, is evidence of this.

Aligning Stakeholders and Interests

One of the most important functions that the VCDNP serves is as a convener, bringing together critical stakeholders to discuss pressing topics in non-proliferation in a neutral space. In 10 years of facilitating dialogues, the value of connecting these stakeholders with one another has become evident. For example, as a result of the VCDNP's project on peaceful uses and nuclear security, diplomats have been able increase their knowledge and understanding of technical issues and the priorities of other Member States. The opportunity to engage regularly in technically informed policy discussions promotes consensus in the international organisations in Vienna.

The VCDNP's activities have also been successful at filling policy gaps in global nuclear governance. Notably, in 2017 the VCDNP convened a task force of experts to examine how cooperation could be enhanced between nuclear-weapon-free zones (NWFZ).¹⁷ Some of the policy recommendations published in the task force's 2018 report were successfully implemented, including the creation of an online platform for States party to NWFZs to communicate more effectively among the zones.

There are two lessons to draw from this experience. First, technically based policy discussions are an effective tool in reaching consensus on critical nuclear issues. Second, policy discussions can

¹⁷ Cooperation among Nuclear-Weapon-Free-Zones: History, Challenges and Recommendations. Available at: <https://vcdnp.org/cooperation-among-nuclear-weapon-free-zones-history-challenges-and-recommendations/>.

and should be used to forge networks between communities, including policy and technical , as well as inter-regional, to achieve positive outcomes.

Thinking Strategically on Research Deliverables

The VCDNP has significantly increased its emphasis on conducting impact-driven research on critical issues in this field. The research the VCDNP conducts is driven primarily by “Vienna issues,” including finding ways to most effectively support the work of the international organisations and their Member States in Vienna. The VCDNP’s role in this regard is most often to equip the international organisations and their members with the most concise, comprehensive, and relevant information possible so that they can make the most informed decisions.

The VCDNP project on States’ experience in implementing the CPPNM and its Amendment is an example of this practice. As the Review Conference on the CPPNM and its Amendment is slotted to take place in March 2022, national governments and international organisations alike have interest in ensuring that the challenges to its universalisation are well understood. It is important to note in this regard that the VCDNP serves as a neutral hub for such research, equipping the direct national and international stakeholders with the tools necessary.

The lesson to draw from the above is that within the context of the “Vienna issues” it is important to base research objectives on practical needs and outcomes. The impact of non-governmental partners is most significant when they focus on issues that pertain to the needs of their stakeholders and provide sound research and analysis with practical and concrete recommendations.

VI. Conclusion

This paper included just a few takeaways from the VCDNP’s first 10 years. As the landscape of the nuclear field continues to change, the VCDNP will continue to adapt its work to best meet the needs of its constituents and stakeholders through education and training, results-oriented dialogue and impact-driven research.