

The Iran nuclear deal: an initial step forward

On 24 November 2013, Iran and the six powers—the US, UK, France, Russia, China and Germany—concluded what they described as an ‘initial agreement’ that within one year should be followed by a final one on how to resolve the Iran nuclear crisis.

The plan’s ‘initial step’ commits Iran to several actions that are intended to build confidence hand-in-hand with a limited amount of sanctions relief by the powers. If Iran implements these actions, during the next six months, and perhaps beyond, the country will break off heretofore uninterrupted deployment of gas centrifuges for uranium enrichment, will halt uranium enrichment to 20 per cent U-235 (from which stage material can be more quickly enriched to weapons-grade) and will cap its accumulation of enriched uranium hexafluoride (UF₆) gas produced in its centrifuges. While these measures are being implemented, during the ensuing six months to one year, Iran and the powers are to negotiate the ‘final step’.

The agreement on the initial step followed from many months of discussions between Iran and the six powers over what had originally been intended to be a four-step process to resolve the crisis. On the basis of secret bilateral talks, the United States and Iran in effect accelerated progress in negotiations by collapsing the four-step process into an initial and a final step.

This made possible the dramatic—and to some observers unexpected—breakthroughs made in two consecutive negotiating sessions held in Geneva in mid-October and late November. But the success in concluding the initial step was bought at the price of lack of clarity about how all seven countries should proceed in negotiating the final step during the next 12 months. Much of what had been foreseen under steps two and three in the original negotiation architecture remains undefined in the Joint Plan of Action (JPA), as the agreement is called, concluded between Iran and the six powers on November 24.

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The Joint Plan of Action: verification arrangements

Concerning verification of the parties' obligations under the JPA, the text offers the following general guidance:

- The International Atomic Energy Agency (IAEA) is 'responsible for verification of nuclear-related measures'.
- A Joint Commission representing Iran and the six powers 'will be established to monitor the implementation' of 'mutual near-term measures'.
- 'The Joint Commission will work with the IAEA to facilitate resolution of past and present issues of concern.'

The JPA identifies specific tasks, which, in order to be successfully implemented, will require a greater level of IAEA access to information and locations than before:

- Within three months after the initial step enters into force, Iran must provide 'specified information' to the IAEA concerning its plans for new nuclear installations, descriptions of buildings on each of its nuclear sites, a 'description of the scale of operation for each location engaged in specified nuclear activities,' as well as information on uranium mines and mills and on source material.
- Iran must provide the IAEA an updated design information questionnaire (DIQ) for the IR-40 reactor under construction at Arak, and confer with the IAEA over the design of a safeguards approach for the reactor.
- Iran must afford the IAEA daily inspection access to centrifuge enrichment installations in Iran.
- Iran must provide managed access to the IAEA to account for and monitor centrifuge equipment production and storage.

Assuming that Iran is prepared to implement the terms of the initial step, the IAEA in principle has the authority and could obtain the resources necessary to carry out additional verification as proposed by the JPA. The IAEA would have the authority to do the verification under Article III A. 5 of the agency's statute, which states that:

The Agency is authorized... to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a State, to any of that State's activities in the field of atomic energy.

Pursuant to entry into force of the JPA, the IAEA's member

states will likely provide the additional resources necessary by way of funding and cost-free experts. The resources needed would be a small fraction of the 12 million US dollars that the IAEA Department of Safeguards spent on verification work in Iran in 2012.

Upon entry-into-force, the IAEA could—with comparatively little additional resources—verify that enrichment above five per cent U-235 at Iran's Pilot Fuel Enrichment Plant (PFEP) at Natanz and at the Fordow Fuel Enrichment Plant (FFEP) has been stopped; that Iran's inventory of 20 per cent enriched uranium is being down-blended; that UF₆ associated with the Fuel Enrichment Plant (FEP) is being converted to less threatening oxide form; that no additional centrifuges are being installed at Iran's enrichment sites and that designated installed capacity at these plants is idle. The IAEA can carry out inspections at the Arak reactor construction site, at the Tehran Research Reactor, and at a critical facility to provide assurance that Iran is not making or testing fuel for the IR-40 reactor. Iran could provide the IAEA data it needs for updated DIQ and for designing a safeguards approach for the IR-40 reactor, consistent with the IAEA subsidiary arrangements modified Code 3.1—which requires states to provide early design information for nuclear facilities. The IAEA would have to devote relatively more effort and resources to fulfil some other tasks called for under the JPA, and for two of these—outlined below—the IAEA must also negotiate new data access arrangements before the work can commence.

Monitoring of centrifuge equipment production: Information about centrifuge production is required under the Additional Protocol, but monitoring is not a routine IAEA activity in other countries with centrifuge enrichment programmes under IAEA safeguards. It has previously been carried out by the IAEA in both Iran and Libya. The IAEA monitored non-production of centrifuge rotors following an agreement between Iran and European Union countries notified to the IAEA by Iran in November 2003. According to Olli Heinonen, former IAEA Deputy Director General for Safeguards, the IAEA used data on Iran's import and consumption of key raw materials including maraging steel and high-strength aluminum to set a baseline for the monitoring of the 2003 suspension agreement, which Heinonen said, 'went beyond

the monitoring requirements of this Joint Plan.’

In 2004 and 2005 the IAEA also carried out similar monitoring activities for centrifuge equipment for Libya’s formerly clandestine nuclear programme. For work under the JPA, the IAEA would negotiate similar arrangements to establish Iran’s inventory of centrifuge rotors, and to monitor production of replacements.

Daily access to enrichment plant surveillance records: Until now, under legally binding safeguards arrangements between Iran and the IAEA the agency has not requested this access. Immediately after announcement of the JPA, some safeguards experts questioned whether daily access to Iran’s centrifuge plant records would significantly benefit the IAEA since the material flows in these installations are relatively limited. For his part, Heinonen has suggested that in addressing tasks called for in the JPA, the IAEA would want to negotiate more frequent inspector access to centrifuge cascades and other relevant areas at the Natanz and Fordow plants. In addition, he suggested they would want to put under IAEA seal the stocks of UF₆ and uranium oxides at Natanz, Fordow, and the uranium conversion-related installations and equipment at Esfahan, as well as obtain more frequent access to these materials at these locations.

Resolution of outstanding issues

On 11 November, two weeks before the JPA was concluded by Iran and the powers, Iran and the IAEA agreed to a so-called Framework for Cooperation. This development superseded a long-unsuccessful negotiation by Iran and the IAEA of a planned ‘structured approach’ to resolve outstanding issues and, in particular, allegations set forth in IAEA reports to the agency’s Board of Governors since November 2011 that Iran has engaged in activities related to the development of nuclear explosive devices—issues collectively referred to by the IAEA as ‘possible military dimensions’ (PMDs) of Iran’s nuclear programme.

The Framework of Cooperation statement is a brief and general document that commits both parties to ‘strengthen their cooperation and dialogue aimed at ensuring the exclusively peaceful nature of Iran’s nuclear programme through the resolution of all outstanding issues that have not already

been resolved by the IAEA.’ In similar general terms, the JPA says that the parties will set up a ‘Joint Commission [that] will work with the IAEA to facilitate resolution of past and present issues of concern.’

Neither the Framework of Cooperation nor the JPA establishes a timeline for the resolution of these concerns. An annex to the Framework of Cooperation sets forth a list of ‘initial practical measures’, including for Iran to provide the IAEA with information it needs during the next three months. Some of these points were cross-referenced in the JPA as elements of IAEA ‘enhanced monitoring’ in that agreement.

The framework annex

It would appear that this annex was designed to include topics for which provision of information to the IAEA by Iran would be comparatively straightforward, and thereby contribute to confidence-building as intended by the initial step negotiated between Iran and the six powers. The IAEA and Iran have begun to implement the terms of the Framework of Cooperation already by conducting a visit to the heavy water production plant at Arak in December. They may visit Iran’s uranium mine at Gchine in February.

The JPA, however, sets the optimistic target to ‘conclude and commence implementing’ the ‘final step of a comprehensive solution...no more than one year after the adoption of’ the JPA. At the same time, it also provides for the initial six-month step to be renewable, and that—as foreseen during the early negotiation of the agreement—there would be ‘additional steps’ in between the initial and final steps. According to negotiators, the ambitious timetable foreseen by negotiators for both Iran and the powers reflected political pressure in Iran and the US to reach a final agreement quickly, as US congressional critics threatened to impose more sanctions on Iran if progress in reducing Iran’s nuclear threat was not forthcoming, while regime hardliners in Iran have opposed Iranian President Hassan Rouhani pursuit of negotiations.

At the IAEA secretariat, during the negotiation of the JPA, concerns were raised at a senior level about the relationship between the IAEA’s independent obligation—following from Iran’s comprehensive safeguards agreement (CSA) and from resolutions of the IAEA board and the UN Security Coun-

cil—to resolve outstanding questions about Iran’s nuclear activities, on the one hand, and the powers’ interest in negotiating a political resolution to the crisis with Iran on the other.

Ongoing IAEA concerns

Should Iran implement the suspension terms in the JPA to the letter, but fail to satisfy the IAEA concerning its outstanding questions—including about PMDs—the possibility exists that the powers, in the interest of quickly concluding a ‘final step of a comprehensive solution,’ might strongly urge the IAEA to accept what it would consider less than satisfactory demonstration by Iran that allegations and concerns about undeclared activities and nuclear weapons-related research and development are unfounded.

That eventuality would be more likely if—as some participants in JPA negotiations have recently asserted—there is no watertight consensus among all negotiators in the powers’ camp that it is essential that the IAEA conclusively resolves all the concerns raised by allegations in the agency’s dossier. Some experts also recalled the IAEA’s experience during the political negotiations led by the US with North Korea in 1993 and 1994 (toward the conclusion of the Agreed Framework), which were conducted under time pressure out of concern that Pyongyang would quit the NPT and quickly develop nuclear weapons. This incident, the experts warned, should prompt the IAEA secretariat to recall to the powers negotiating with Iran that the IAEA is legally obligated by Iran’s CSA to implement safeguards.

The concluded JPA does not spell out how this issue will be handled except by stating that the Joint Commission would ‘work with the IAEA to facilitate resolution of past and present issues of concern.’ According to some verification experts, the IAEA and the powers may arrive at a confidential understanding about how to proceed. But what Iran does with the IAEA to meet its obligations under its safeguards agreement and under resolutions of the IAEA board and the Security Council should be kept distinct from political commitments that Iran makes under the JPA. One expert told the author that following entry-into-force of the JPA, ‘the timing of specific actions under the political track may be influenced by the timing of actions under the IAEA track. But they should be

kept separate.’ The IAEA should be prepared to verify that voluntary confidence-building measures are taking place under the JPA, and in such cases the parties to the JPA should inform the IAEA in a timely manner of what kind of verification activities are called for and when they should happen. But the powers must not interfere with the IAEA’s activities in implementing verification under Iran’s safeguards agreement.

Ensuring a separation of tracks between the powers’ political process and the IAEA secretariat’s safeguards obligations may prove to be difficult. Until now, a number of verification authorities have expressed and endorsed the view that, under Iran’s CSA, the IAEA has the authority, indeed is obligated, to pursue and resolve PMD-related allegations about Iran’s nuclear programme. How the Joint Commission could ‘facilitate resolution’ of these issues, without challenging in some cases the IAEA secretariat’s independent safeguards judgment is not clear.

A new UNSC resolution?

The JPA says that ‘additional steps’ between the initial and final steps also include actions that aim to ‘bring to a satisfactory conclusion’ the UN Security Council’s consideration of this matter. It is widely anticipated that a new Security Council resolution would be passed to override resolutions that since 2006 have ordered Iran to suspend its uranium enrichment and heavy water reactor-related activities (since the initial step permits Iran to continue to enrich uranium and the JPA sets forth that the final step would permit Iran to continue uranium enrichment indefinitely.) Such a new Security Council resolution might be passed, for example, in exchange for firm commitments by Iran to ratify and implement its Additional Protocol, to limit the scope of its enrichment program, and to abandon construction of its IR-40 reactor at Arak or modify its design. But must all of the IAEA’s outstanding issues be resolved before the Security Council passes a new resolution which nullifies previous suspension orders and lifts all its nuclear sanctions against Iran? •

Mark Hibbs

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Syria: the road to chemical disarmament

Roseanna Watson, London

Since plans to remove Syria's chemical weapons were announced last September the process has proven, unsurprisingly, to be a complicated affair. Even so, several important deadlines set by the Executive Council of the OPCW have been met. Syria's declaration of its chemical weapon capabilities on 21 September was punctual and reported to be 'better than expected' by international observers. Initial on-site inspections were completed by November, although the inspection of two facilities was reportedly constrained by safety concerns. All declared equipment for mixing and filling chemical weapons was destroyed by the 1 November deadline set for such activities. In addition, the joint UN-OPCW mission announced on 6 December that it has verified the destruction of all declared unfilled munitions.

A finalised plan for the destruction of Syria's chemical stockpile was announced on 17 December. In mid-November the OPCW decided that material would be transported for destruction outside of Syria's borders, as ongoing turmoil rendered the domestic destruction of all Syrian chemical weapons capabilities by the June 2014 deadline unlikely. This process, however, was subject to setbacks. It was originally envisaged that priority chemicals (i.e. those deemed most dangerous by the OPCW) would be transported to a third-party state for destruction. However, the search for a recipient country ended without a willing state being found.

Destruction will instead happen at sea aboard a specially adapted US ship: the MV Cape Ray. Security and diplomatic constraints prohibit a US ship from docking at a Syrian port. Therefore, Danish and Norwegian cargo ships will take the materials from the Syrian port of Latakia to an unnamed port in Italy for loading onto the Cape Ray.

Dispelling early speculation that Syria's stockpiles would be incinerated on-ship using portable incineration plants, the Pentagon unveiled a plan to neutralise the chemicals using

two field deployable hydrolysis systems that dilute bulk chemicals, rendering them unusable. The process of destroying priority chemicals is estimated to take between 45 and 60 days to complete. The OPCW has set a deadline of 31 March 2014 for the task to be completed by.

The operation is estimated to create 7.7 million litres of hazardous waste. No details have been given as to the final destination of this, but the *Washington Post* has reported official assurances that none will be dumped into the sea. In November, the OPCW called for commercial companies to submit bids for contracts to process non-priority Syrian chemicals, and possibly hazardous waste, reportedly receiving 35 expressions of interest in response. The recipients of the commercial contracts will be announced in the coming weeks.

In spite of early progress, a 31 December 2013 deadline for the removal of Syria's priority chemical stockpile was one deadline that was not met. The delay was attributed to a combination of bureaucratic issues, security concerns and bad weather—difficulties typical of the challenge faced by the OPCW mission overall. Concerns over the removal and destruction plan persist. Syria remains a warzone, so the transportation of chemicals to the port of Latakia continues to prove problematic. In addition, once chemicals leave Syria, the ability to neutralise them by hydrolysis is affected by their purity and this is yet to be confirmed. Outstanding allegations of chemical weapons use since Syria's accession to the Chemical Weapons Convention may further delay the conclusion of the disarmament process.

The director-general of the OPCW, Ahmet Üzümcü, has expressed confidence that Syria's entire stockpile of chemical weapons will be destroyed by the June 2014 deadline—despite the setbacks the process has so far suffered. However, given the continuing volatility of the Syrian security situation, the current timetable for disarmament, for both priority chemicals and other agents, remains ambitious. •

US Supreme Court hears Bond case, again

Yasemin Balci, London

On 5 November 2013, the US Supreme Court heard the case of *Bond v US* for the second time. During the first hearing in 2011, the court had to decide whether Ms Carol Bond—found guilty of attempting to poison an erstwhile friend—had standing (that is, the legal ability to bring her case) to challenge her conviction under the Chemical Weapons Convention (CWC) Implementation Act (see *Trust & Verify* No. 134 on this matter). Its decision was that she could challenge her conviction, though the US Court of Appeals subsequently upheld her conviction under the CWC Implementation Act in 2012 (see VERTIC Blog of 28 June 2012 for an analysis of this judgment). This February, the US Supreme Court agreed to hear her case again (see VERTIC Blog of 7 February 2013) in order to reconsider whether the CWC Implementation Act applied to her case and how treaties should be implemented in general.

During oral arguments on 5 November, Ms Bond and the United States federal government were each given one hour to present their case. Ms Bond's counsel argued that the subjects that fall within the power of states limit the treaty implementing power of the federal government. He also argued that the general laws of states on assault and murder are sufficient to implement the CWC and cover acts such as that carried out by Ms Bond's.

The federal government argued that its treaty power is not limited to legislating strictly trans-state subjects and that the implementing legislation—the CWC Implementation Act—of the US is typical legislation that is in line with the requirements of the CWC. Justice Kagan pointed to the issue at stake by mentioning the letters the court had received 'from almost all of the legal counsels of the State Department, Republican and Democrat, talking about how if [Ms Bond's] argument were accepted, it would severely damage the United States' ability to enter into and to negotiate treaties.'

Specifically regarding Ms Bond's conduct, her counsel had argued that 'nobody speaking normal English would identify this as a deployment of chemical weapons at all.' Justice

Alito seemed to agree. 'If you told ordinary people that you were going to prosecute Ms Bond for using a chemical weapon, they would be flabbergasted,' he said. 'It's so far outside of the ordinary meaning of the word.' However, Justice Sotomayor clarified that these kinds of definitions are common in criminal legislation. 'We call a dangerous weapon anything that you use to inflict serious injury on someone. I don't think of a car as necessarily a dangerous weapon. It is something I use to transport myself. It's only when I'm using it for a prohibited purpose that it turns itself into a dangerous weapon.'

A new element in the hearing was not so much related to Ms Bond's conduct, but the use of chemical weapons in Syria. Justice Sotomayor remarked that 'it would be deeply ironic that we have expended so much energy criticizing Syria, if this court were now to declare that our joining or creating legislation to implement the treaty was unconstitutional.' However, Justice Breyer did not see the link between the two. He mentioned that defining any toxic chemical as a possible chemical weapon creates 'examples that seem to have nothing to do with the problem of chemical weapons like the Syrian problem.'

The fact that in the US CWC Implementation Act—as well as in the CWC—the definition of chemical weapons is not restricted to the toxic chemicals listed in an Annex to the CWC, known as 'scheduled chemicals', troubled a few justices as this makes the definition very broad. A 1994 legal commentary to the CWC explains that 'throughout the negotiations, plenty of attempts were made...to find a way to specify, at least for the chemicals involved, what chemicals *exactly* are to be considered a chemical weapon. However, given the characteristics of chemical weapons, any such attempt was bound to lead nowhere.'

Purpose therefore remains the 'the ultimate criterion to decide whether such a chemical was indeed a chemical weapon or not.' Using a toxic chemical for industrial, research, medical or other peaceful purposes is allowed, but using the same toxic chemical to cause harm turns it into a chemical weapon. Whether the highest court of the US will accept this feature of the CWC is likely to become clear in June 2014 when the court's decision should be issued. •



US and UK present on disarmament verification work

David Cliff, London

This October saw the US and UK host a joint briefing at the United Nations in New York in which they revealed technical aspects of cooperation activities on nuclear disarmament verification stretching back 13 years. The briefing was opened by Jeffery Eberhardt of the US State Department. He began his remarks by stating that while there tends to be much talk of nuclear disarmament in forums such as Non-Proliferation Treaty review meetings, there is often far less consideration of the verification requirements and that there ‘has to be a strong verification regime associated with achieving a world without nuclear weapons.’

Past treaties have tended to focus on verifying the dismantlement of weapon delivery systems, Mr Eberhardt noted, with these being relatively easy items to destroy and verify while doing so. But, he said, as nuclear weapon numbers fall towards zero it will, he said, become increasingly important to verify the dismantlement of warheads themselves—an ‘extremely difficult problem’ in his words.

Mark Ruglys from the UK Ministry of Defence provided an overview of the technical activities the UK and the US have been collaborating on. A programme was established in October 2000, he stated, at the invitation of the Ministry of Defence and the UK Atomic Weapons Establishment, with initial meetings covering each country’s arms control and non-proliferation programmes before a detailed work plan was developed. The UK-Norway Initiative—which began in 2007, and which VERTIC reported on in 2010 (see *Verification Matters* 9)—was initiated in parallel to Britain’s work with the US, Mr Ruglys noted, but the work with Norway dealt distinctly with the role that non-nuclear-weapon states might play in disarmament verification. The US-UK programme, for its part, has focused on facility issues and technologies, Mr Ruglys stated, involving technical exchanges at nuclear facilities in both countries. This included demonstrating radiation measurements on warheads and warhead components (generally recognised

as being a highly intrusive measure). The ongoing goals of the work include gaining a deeper understanding of the nuclear weapon dismantlement process, as well as identifying and developing technologies and procedures addressing a number of key issues. These goals have focused on protecting sensitive information, increasing monitoring confidence in warhead dismantlement and ensuring chain of custody throughout a dismantlement process. Issues addressed include how to monitor the storage of highly-enriched uranium and plutonium resulting from nuclear warhead dismantlement operations. More specifically, technical cooperation has covered a wide range of issues, including: non-destructive analysis, remote monitoring techniques, low intrusion measuring equipment, hardware and software authentication, information barrier technology, chain of custody methodologies and, notably, exercises on managed access and information protection.

During the briefing, Michele Smith, deputy director for the Warhead Dismantlement Transparency Program at the US National Nuclear Security Agency, provided information on a monitored dismantlement exercise as an example of one of the joint activities held under this cooperation initiative. The principal aims of this exercise were to develop a robust chain of custody as part of a realistic dismantlement transparency scenario—to implement what had been learned from work to date, as well as to develop and test capabilities and procedures and address authentication issues. The exercise was said to involve two notional nuclear-weapon states and a negotiated agreement with associated verification protocol.

Among the wider lessons learned by the US-UK collaborative programme, an ongoing effort, Ms Smith referred to the fact that technical cooperation can facilitate determinations over the requirements and appropriateness of various technologies and verification techniques as well as the benefits of expanding the ‘technical and procedural knowledge base for warhead dismantlement and transparency’. •

National Implementation Measures Programme

Over the last quarter, the NIM Programme has completed three legislation surveys related to the international legal instruments to secure nuclear and other radioactive material and revised three surveys on the implementation of the Biological Weapons Convention (BWC). The team also discussed and revised 15 surveys compiled under the European Union CBRN Centres of Excellences (CoE) Project 8 on 'Prerequisite to strengthening CBRN national legal frameworks' ('CoE Project 8') with our project partners: the Federal Office of Economics and Export Control (BAFA), a German federal agency, and the United Nations Office on Drugs and Crime (UNODC).

On 7 October, VERTIC attended a session on UN Security Council Resolution 1540 (UNSCR 1540) at the 129th Assembly of the Inter-Parliamentary Union (IPU) in Geneva, facilitated by the IPU's Committee on UN Affairs. Scott Spence, Senior Legal Officer, represented VERTIC at the session and gave a presentation on national implementation of UNSCR 1540. From 8-18 October, Mr Spence spoke at a regional BWC workshop in Santiago on Chile's national implementation of the instrument and also travelled to Ecuador where he participated in a legislation-drafting workshop as an expert for the EU BWC Action. The work involved assisting the country to prepare criminal provisions for the Chemical Weapons Convention and BWC and other biosecurity and transfers control measures for an amended arms control law.

During 14-18 October NIM staff participated, on request, in two OSCE consultation meetings in Vienna to draft National Action Plans for UNSCR 1540 with representatives from Macedonia and Montenegro. In London, during 22-24 October, VERTIC was represented by Bilqeas Esmail, Legal Officer, in meetings of the Global Partnership's Biosecurity and Chemical Security sub-Working Groups, while Sonia Drobysz, Legal Officer, participated in a Nuclear and Radiological Security sub-Working Group.

From 4-15 November 2013 the NIM Programme conducted a two-week mission to four Southeast Asian countries as the first technical assistance visit under CoE Project 8. Scott Spence, Bilqeas Esmail and Yasemin Balci, Legal Officer, participated. During the missions, discussions took place on national CBRN legislation and priority areas for legislative drafting were also identified. Scott Spence and Sonia Drobysz travelled to Indonesia to attend the Expert Meeting on the National Legislation Implementation Kit on Nuclear Security (NLIK/NS) from 20-21 November, at the invitation of the Indonesian Government. The NLIK/NS is being revised, based on comments received, and finalised ready for submission by the Government of Indonesia to the Nuclear Security Summit in The Hague, 24-25 March 2014.

VERTIC, represented by Sonia Drobysz attended a regional workshop for national implementation of the BWC in South America, held in Mexico from 13-14 November. Sonia also attended part of the US Biosecurity Engagement Programme (BEP) Implementers' workshop on 12-13 November. Angela Woodward, Programme Director, participated in the Beeby Colloquium on International Law on 15 November and the New Zealand Public Advisory Committee on Disarmament and Arms Control (PACDAC) meeting, as a member, on 28 November. Both meetings were held at the Ministry of Foreign Affairs and Trade in Wellington, New Zealand.

Scott Spence represented VERTIC at the Conference of the States Parties to the Chemical Weapons Convention in the Hague from 2-4 December where VERTIC delivered a statement focusing on universality of the CWC, accountability for chemical weapons use in Syria and national implementation of the Convention. From 2-6 December, Legal Officers Yasemin Balci and Bilqeas Esmail participated in two awareness-raising workshops in Benin and Burkina Faso, under the auspices of the EU-funded BWC Action, giving presentations on national implementation of the BWC. Both countries requested assistance with draft-

ing BWC implementing legislation and VERTIC will participate in legislative drafting missions to both countries in 2014.

Scott Spence and Bilqees Esmail attended the BWC Meeting of States Parties which took place in Geneva from 9 to 13 December in Geneva and participated in the European Union BWC Action Working Meeting on its BWC National Implementation Guidance document. In addition to a statement during the NGO session on Monday afternoon, Scott Spence delivered a statement during the Standing Agenda Item on National Implementation on Thursday after the Chair of the session exceptionally convened an informal session to give the floor to VERTIC to present its

Verification and Monitoring Programme

On 30 September and 1 October, VERTIC participated in the EU Non-proliferation and Disarmament Conference 2013 in Brussels, Belgium where Andreas Persbo, Executive Director, delivered a presentation on nuclear issues in South Asia. From 8-11 October, Andreas Persbo and David Keir attended the NTI Pilot Project on Verification in Washington, DC. The project, which reports on its activities this year, is expected to make a significant contribution to disarmament verification research efforts in the US and elsewhere. On 25 and 26 October, VERTIC participated in the 'Nuclear Disarmament and Non-Proliferation: Strengthening Treaty Obligations, IAEA Safeguards and Measures Countering Nuclear Terrorism' conference in Naples, Italy, sponsored by the Italian Ministry for Foreign Affairs and the Italian Society for International Organization (SIOI). Sonia Drobysz, Legal Officer, represented VERTIC at this conference.

In November, VERTIC's Hassan Elbahtimy, Senior Researcher, assisted with a student simulation on the verification of warhead dismantlement held in Oslo, Norway where he also gave a presentation. The simulation exercise was organised by King's College London and the Norwegian Institute for Energy Technology and involved students from Texas A&M University and from several Russian academic institutions. In November, VERTIC staff had the opportunity to brief the US government on the results of a project examining the role of robotics in verification, and received

positive feedback on the work done.

In December, VERTIC organised a seminar on Verification for Disarmament, Non-Proliferation, and Arms Control in Vienna, Austria. The meeting was held under VERTIC's project on multilateral verification and was run in cooperation with the Vienna Center for Disarmament and Non-Proliferation. The seminar brought together several notable figures in arms control to discuss approaches to verification of nuclear disarmament as well as measures to ensure its irreversibility. This was the first of a series of seminars that will run during 2014.

Shortly before Christmas, VERTIC conducted a two-day workshop with government stakeholders in Cote d'Ivoire, as part of our project to support and promote Additional Protocol ratification and implementation. Larry MacFaul, Senior Researcher, Hassan Elbahtimy and Sonia Drobysz acted as facilitators for the event and also gave several presentations on the instrument. VERTIC was joined by experts from the US National Nuclear Security Administration's International Nuclear Safeguards Program and the Norwegian Radiation Protection Authority.

During the quarter, VERTIC staff continued with other work on the Additional Protocol project. This included continuing work on surveying four countries' current nuclear institutional arrangements relevant to future Additional Protocol ratification and implementation. We also carried out work to identify lessons from countries that have an Additional Protocol in place, including completing one country survey, and continuing with three others.

VERTIC staff also participated in the annual December Wilton Park conference on nuclear issues where Andreas Persbo spoke on what the NGO community can learn from conference to best support the NPT process. Throughout the October to December period, VM staff continued research under VERTIC's multilateral verification project, including work on developing a notional fuel cycle model onto which verification solutions for disarmament scenarios can be tested. Work has also been continuing on other aspects of this project in preparation for a conference being organised by VERTIC in South Africa in January. •

Grants and administration

Dominic Bright completed his internship with VERTIC in November. He assisted the National Implementation Measures (NIM) team and was instrumental to the preparation for their mission in South East Asia as well as other work on EU grants. At the end of November, Roseanna Watson began an internship with VERTIC, assisting the Verification and Monitoring programme. Roseanna has recently completed a Master's degree in Non-Proliferation and International Security at King's College.

VERTIC is also soon to make two new appointments to its board of trustees. First, VERTIC is pleased to announce that Sverre Lodgaard will be joining the board. Mr Lodgaard has a distinguished career and will bring a strong level of expertise to our work. Mr Lodgaard is currently working as a Senior Research Fellow at the Norwegian Institute of International Affairs. He previously served as director of the Institute from 1997 to 2007.

VERTIC is also pleased to announce that Peter Alvey will be joining the board, bringing his experience in accounting as a honorary treasurer. Mr Alvey has worked at the Institute of Chartered Accountants for over ten years, and serves as a honorary treasurer of the Worshipful Company of World Traders. •

building trust through verification

VERTIC is an independent, not-for-profit non-governmental organization. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives, with particular attention to issues of monitoring, review, legislation and verification. We conduct research, analysis and provide expert advice and information to governments and other stakeholders. We also provide support through capacity building, training, legislative assistance and cooperation.

PERSONNEL Mr Andreas Persbo, *Executive Director*; Ms Angela Woodward, *Programme Director*; Dr David Keir, *Programme Director*; Mr Larry MacFaul, *Senior Researcher, Editor-In-Chief for VERTIC publications*; Mr Scott Spence, *Senior Legal Officer*; Mr Hassan Elbahtimy, *Senior Researcher*; Ms Yasemin Balci, *Legal Officer*; Mr David Cliff, *Researcher*; Ms Bilqees Esmail, *Legal Officer*; Ms Sonia Drobysz, *Legal Officer*; Ms Katherine Tajer, *Administrator/Research Assistant*; Mr Russell Moul, *Research Assistant*; Mr Alberto Muti, *Research Assistant*; Ms Renata Dalaqua, *Volunteer Consultant* (2011-14); Mr Ryoji Sakai, *Volunteer Consultant* (2012-14); Ms Roseanna Watson, *Intern* (December 2013-February 2014).

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