

**IMPLEMENTATION OF THE CONCLUSIONS AND RECOMMENDATIONS  
FOR FOLLOW-ON ACTIONS  
ADOPTED AT THE 2010 NPT REVIEW CONFERENCE  
DISARMAMENT ACTIONS 1-22**

**2014 MONITORING REPORT**



Gaukhar Mukhatzhanova



JAMES MARTIN CENTER FOR  
NONPROLIFERATION STUDIES

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# INTRODUCTION

The ninth review cycle of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) is entering its final year. On April 28-May 9, 2014, NPT states parties will gather for the third session of the Preparatory Committee (PrepCom) in New York to continue the discussion of the implementation of the treaty and decisions of past Review Conferences (RevCon). The previous Review Conference concluded on May 28, 2010 with the adoption by consensus of Conclusions and Recommendations for Follow-on Actions, now known as the 2010 Action Plan.<sup>1</sup> The conclusions and Recommendations contain 64 action items across the three “pillars” of the NPT: nuclear disarmament, nonproliferation, and peaceful uses of nuclear energy, and an endorsement of a set of practical steps regarding the implementation of the 1995 resolution on the establishment of a zone free of nuclear weapons and all other weapons of mass destruction (WMD) in the Middle East.

This is the third Action Plan monitoring report produced by the James Martin Center for Nonproliferation Studies (CNS). It reviews the implementation of the first 22 action items on nuclear disarmament as well as the recommendations on the Middle East. The report covers the developments since the 2010 Review Conference but, wherever possible, highlights in particular the period from April 2013 to April 2014.

The Action Plan is expected to serve as the basis for review at the next NPT Review Conference. However, due to a growing divergence of views on what constitutes an appropriate pace of implementation, particularly of the disarmament section, states parties might be heading toward a serious confrontation in 2015. The nuclear-weapon states (NWS) have taken a very long-term view of the Action Plan, and in their statements suggest that the Action Plan endorses the step-by-step approach and is the *only* viable path for nuclear disarmament and the NPT. On the other hand, slow progress on disarmament feeds discontent among the non-nuclear-weapon states (NNWS) and stimulates the search for ways to push for more ambitious measures. Thus, the NNWS have started to take more initiative in the past two years, which has led to the convening of two conferences on the humanitarian impact of nuclear weapons and a High-Level Meeting of the UN General Assembly on Nuclear Disarmament, as well as the establishment of an Open-Ended Working Group on taking forward multilateral nuclear disarmament negotiations (OEWG). The NWS have reacted negatively to all three developments and did not participate in the humanitarian impact conferences and the OEWG. Bridging this growing divide between the nuclear and non-nuclear weapon states would be crucial for the outcome of the 2015 Review Conference, and without more substantive progress on disarmament action items and constructive NWS-NNWS conversation on the humanitarian dimension, such a bridge is hard to imagine.

## Overview of Findings

Overall progress in implementing disarmament action items since 2010 has been very limited and has not improved since the 2013 PrepCom. Many of the measures implemented during the reporting period were, in fact, initiated or planned before the adoption of the Action Plan, whereas actions that

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<sup>1</sup> The review of treaty implementation was not agreed by consensus but rather issued under the responsibility of the President of the 2010 Review Conference, reflecting his view of discussions during the RevCon.

require a significant change in behavior or revision of policies for the most part saw little or no progress in implementation (e.g., states that had not previously declared fissile material in excess of defense needs did not do so during the reporting period; states that had not provided information on their arsenal numbers or warheads dismantlement have not revised these policies since the 2010 RevCon).

The most significant progress was again observed on the first part of Action 4 on New START: Russia and the United States have been implementing the treaty since early 2011. At the same time, the two states have not been successful in overcoming their disagreements and advancing any follow-on measures. The NATO-Russian consultations on missile defense and non-strategic nuclear weapons also appeared to have reached a dead end even before cooperation was suspended due to Russia's intervention in Ukraine in spring 2014.

After the United Kingdom announced in October 2010 the decision to unilaterally reduce its overall arsenal to no more than 180 warheads, Action 3 has not advanced any further. Although President Barack Obama has determined that the number of deployed US nuclear weapons can be reduced by about 500 warheads, he has made those reductions subject to bilateral negotiations with Russia. China, France, and Russia also have not announced any unilateral reductions.

A more important area where progress has been lacking is the reduction of the role of nuclear weapons in military and security concepts (Action 5c and Action 1), which should provide the overall context for the implementation of other concrete steps. The 2010 UK Strategic Defence and Security Review did signal a somewhat reduced role for nuclear weapons in the state's doctrine, but at the same time the United Kingdom is still considering the replacement of Trident, which would preserve its "independent nuclear deterrent" and project national reliance on nuclear weapons for decades ahead. The United States announced a new nuclear weapons employment guidance in 2013, which directs the Department of Defense to look into ways to reduce the role of nuclear weapons in military planning. The new document does not change the US doctrine, though, but rather aims to "align U.S. defense guidance and military plans with the policies of the 2010 Nuclear Posture Review." There were no doctrinal changes in France, China and Russia during the reporting period. However, France and Russia both appear to be shifting attention away from nuclear disarmament by increasingly emphasizing general and complete disarmament in the context of Article VI. Indeed, France's new White Paper on Defense does not specifically reference nuclear disarmament as part of Article VI obligations but underlines the commitment to the goal of general and complete disarmament.

There appears to have been limited progress in the NWS consultations (the "P5 Process") called for in Action 5.<sup>2</sup> The five states have now adopted a standard reporting form, pursuant to Action 21, but as their views on transparency continue to differ, the reports the P5 plan to submit to the 2014 PrepCom might vary significantly in the amount of information they contain. The NWS have continued to brief each other about their verification experiences, but there are no new joint verification projects being launched as a result of the P5 consultations. The main project that the NWS are highlighting is the development of a common glossary of key nuclear terms. Having common terminology would indeed be important for negotiating future multilateral nuclear arms control and disarmament agreements. However, the draft glossary covers nonproliferation, peaceful uses, and nuclear security along with arms control and reportedly includes many terms that have

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<sup>2</sup> For a detailed overview of the NWS consultations, please see Andrea Berger and Malcolm Chalmers, "Great Expectations: The P5 Process and the Nonproliferation Treaty," Whitehall Report 3-13, Royal United Services Institute, August 2013.

already been agreed in other fora, as the P5 are wary of negotiating unified definitions at this stage.<sup>3</sup> Overall, consultations among the nuclear weapon states are falling short of the expectations of the NNWS and appear to devote increasingly more attention to nonproliferation issues.

In terms of red flags, the report again notes the ongoing modernization of arsenals in the NWS with respect to the development and production of new delivery systems, upgrades of existing ones, increased “effectiveness” of weapons, and extension of their lifetime. Such projects signal continued, long-term reliance on nuclear weapons and appear to contradict the commitments under Action 1. During the reporting period, Russia in particular posted advances in production of new strategic nuclear submarines (SSBNs) and continued testing and deployment of new intercontinental ballistic missiles (ICBMs). The United States has what experts describe as the “largest and most expensive nuclear weapons modernization program,”<sup>4</sup> though a number of projects currently remain at the research and development stage. US modernization projects and decisions might be more affected by budgetary issues in coming years, although so far, nuclear forces have been mostly spared the spending cuts that are affecting other defense programs. Overall, in updating the monitoring report, there are still more developments to keep up with on modernization than on some of the key disarmament action items.

A significant development on Action 9 in the past year is an apparent agreement between the NWS and Central Asian states that the NWS would sign the protocol to the Central Asian Nuclear-Weapon-Free Zone (CANWFZ) treaty, though with interpretative statements or reservations. On the other hand, the NWS and ASEAN members have not yet agreed on the signature of the protocol to the Bangkok Treaty because of the Southeast Asian NWFZ members’ opposition to interpretative statements. There has been no progress since 2011 on the US ratification of the protocols to the Treaties of Rarotonga and Pelindaba. Planned or ongoing nuclear cooperation with NPT outlier India is flagged as a problematic area in the context of advancing NPT universality as well as implementing NWFZ treaties.

Finally, there appeared to be modest signs of progress in the past year in implementing the recommendations concerning the establishment of a zone free of nuclear weapons and all other WMD in the Middle East. The 2010 NPT final document mandated the NPT depositary states to convene, together with the UN Secretary-General, a conference on establishing the Middle East zone, to be attended by all states in the region. Though depositaries and the UN Secretary-General did appoint a facilitator for the implementation of the 1995 Middle East Resolution and a host country for the conference, they were unable to convene the meeting in 2012. However, in October 2013, the facilitator began a series of multilateral consultations where regional states and the co-conveners have begun to discuss conference agenda, modalities, and potential outcomes. Still, they have yet to reach an agreement and set the new dates for the conference. Recommendations on the Middle East were crucial to the outcome at the 2010 Review Conference, and failure to convene the regional conference by 2015 risks undermining the consensus achieved in 2010 and has implications for the NPT regime at large.

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<sup>3</sup> Berger and Chalmers, “Great Expectations: The P5 Process and the Nonproliferation Treaty,” p. 25.

<sup>4</sup> Jon Wolfsthal, “The Myth of American Nuclear Obsolescence,” James Martin Center for Nonproliferation Studies, February 24, 2014, [www.nonproliferation.org/the-myth-of-american-nuclear-obsolescence/](http://www.nonproliferation.org/the-myth-of-american-nuclear-obsolescence/).

## A Note on Methodology

Tracking the implementation of the Action Plan and assessing progress is not an entirely straightforward task, considering the number of action items, the range of activities they cover, challenges associated with obtaining reliable information, and the degree of specialized knowledge required. However, it is important for all NPT states to have access to information that would allow them to monitor implementation and judge whether progress is or is not being made. The decision to focus on the disarmament pillar was affected by considerations of methodology and scope. Most of the actions in the disarmament section are subject to implementation by the five nuclear weapon states (NWS), with only several items also pertaining to non-nuclear weapon states (NNWS). Most actions in the nonproliferation and peaceful uses sections, on the other hand, can and/or should be implemented by all or most states parties. The scope of a study assessing the progress on the first pillar, therefore, was narrower, more focused, and ultimately, more feasible.

The second consideration was the challenges posed by developing an adequate methodology for monitoring and assessment. A review of the entire Action Plan revealed that the disarmament section was significantly more “actionable” than others, due to its formulation. Practical steps on the Middle East are another part phrased clearly as actionable commitments. Although in the disarmament section itself some actions are broad, or formulated as “encouragements” rather than clear-cut commitments, the language in the other two sections—nonproliferation and peaceful uses—suffers from vagueness to a much greater extent.

To track implementation and assess progress, CNS developed a set of indicators of progress.<sup>5</sup> For the majority of action items, indicators are formulated as positive statements about measures being undertaken. For example, for Action 16 on fissile material declarations and disposition, one of the indicators is, “*States submit declarations/reports to the IAEA (International Atomic Energy Agency) on stocks of fissile material declared as no longer needed for military purposes.*” Positive responses to an essentially true/false (yes/no) question about the above statement would indicate progress in implementing Action 16. This format allows for short summary assessments—such as “yes, action implemented,” “no action,” “progress,” etc.—on the basis of more detailed information on specific states’ activities.

Employing such indicators helps to break down the broader action items into more “digestible” parts, especially in cases where an item encompasses different kinds of activities and measures. Action 2, for example, commits states to “apply the principles of irreversibility, verifiability and transparency” in implementing the treaty, and CNS has formulated separate indicators for each of the principles. Irreversibility is thus covered by tracking states’ warhead dismantlement and fissile material disposition activities, and transparency through states’ declarations on their arsenals and reductions implemented. Action 4 on the New Strategic Arms Reduction Treaty (New START) is another example, where—assigning separate indicators to different aspects of the action item—it was possible to recognize both significant progress in ratification and implementation of the treaty, as well as lack of movement on negotiating a follow-on agreement.

In conducting assessments and evaluations, there is a natural tendency to strive to quantify results and to assign numeric values or grades to performance. Such an approach, however, did not appear feasible in the case of the 2010 Action Plan. While one could, conceivably, come up with a formula

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<sup>5</sup> Indicator in this sense is a sign of change, or reflection of a situation.

to give scores or letter grades to individual states (or actions), it was judged more appropriate to provide qualitative assessments. The types of short assessments are:

- \* **yes/no**: in cases where specific steps are taken/not taken, such as ratification of treaties, adoption of a reporting form, convening of a conference, establishment of an ad hoc body at the Conference on Disarmament, etc.;
- \* **degrees of progress** (limited, significant, no progress): in cases where the indicator does not presuppose a yes/no answer, or such answer was insufficient;
- \* **action completed prior to 2010**: this is a special category, indicating that some states had already implemented measures required by certain action items prior to the adoption of the 2010 Action Plan (e.g., joining relevant nuclear weapon-free zones (NWFZ), ratification of relevant NWFZ protocols, etc.)
- \* **red flags** (⚠): this type of assessment is used to flag contentious issues (where states' actions might be subject to very different interpretations by different observers) or areas of potentially greater concern, should certain observed developments or trends continue in the same vein.

Finally, it is necessary to note that evaluation of progress in general is complicated by the near-absence of specific targets and deadlines in the Action Plan. It is not evident if all of the action items, or only some (and then, unclear which ones), are expected to be implemented by the 2015 RevCon—or by some other date, for that matter. Such ambiguity in targets and deadlines is not surprising, but, as mentioned above, it is starting to feed into the tension among NPT parties, as states disagree on what constitutes sufficient progress in implementing the disarmament state in particular. Failure to cope with such differences can seriously complicate the review of the Action Plan implementation in 2015 or derail it altogether.

## **Principles and objectives**

- i. The Conference resolves to seek a safer world for all and to achieve the peace and security of a world without nuclear weapons, in accordance with the objectives of the Treaty.*
- ii. The Conference reaffirms the unequivocal undertaking of the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament, to which all States parties are committed under article VI.*
- iii. The Conference reaffirms the continued validity of the practical steps agreed to in the Final Document of the 2000 Review Conference.*
- iv. The Conference reaffirms that significant steps by all the nuclear-weapon States leading to nuclear disarmament should promote international stability, peace and security, and be based on the principle of increased and undiminished security for all.*
- v. The Conference expresses its deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons and reaffirms the need for all States at all times to comply with applicable international law, including international humanitarian law.*
- vi. The Conference affirms the vital importance of universality of the Treaty on the Non-Proliferation of Nuclear Weapons and calls on all States not parties to the Treaty to accede as non-nuclear-weapon States to the Treaty promptly and without any conditions and to commit to achieving the complete elimination of all nuclear weapons, and calls upon States to promote universal adherence to the Treaty and not to undertake any actions that can negatively affect prospects for the universality of the Treaty.*

While the Principles and Objectives were not phrased as action items, they set the context for the Action Plan. Since 2010, the most remarkable developments took place in the sphere covered by Point v of the Principles and Objectives: humanitarian dimensions of the nuclear weapons problem. The five NWS did not seem to perceive the issue as particularly salient when it was raised at the 2010 RevCon, but by 2014 it became clear that the humanitarian discourse is transforming the NPT debate with regard to nuclear disarmament. Met with stiff NWS opposition, the initiative to more carefully consider humanitarian consequences of potential nuclear weapons use has rapidly gained wide support among non-nuclear-armed NPT parties and is actively promoted by civil society.

Led in particular by Switzerland and Norway, 16 NPT states issued the first joint statement on the humanitarian dimension of nuclear disarmament at the 2012 PrepCom, highlighting both the humanitarian concerns and the question of legality of any use of nuclear weapons.<sup>6</sup> Support continued to grow, and three more joint statements on the humanitarian dimension were delivered since May 2012. At the 2013 PrepCom 80 states subscribed to the statement delivered by South Africa, and 125 nations supported the joint statement delivered by New Zealand at the UNGA First Committee session in fall 2013. All the joint statements highlighted the catastrophic humanitarian consequences of nuclear weapons and underscored the states' conviction that nuclear weapons should not be used again under any circumstances.<sup>7</sup> The latter formulation, "under any

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<sup>6</sup> "Joint Statement on the Humanitarian Dimension of Nuclear Disarmament," Statement on behalf of Austria, Chile, Costa Rica, Denmark, Holy See, Egypt, Indonesia, Ireland, Malaysia, Mexico, New Zealand, Nigeria, Norway, Philippines, South Africa, and Switzerland, First Session of the Preparatory Committee for the 2015 NPT Review Conference, Vienna, May 2, 2012, [www.un.org/disarmament/WMD/Nuclear/NPT2015/PrepCom2012/statements/20120502/SwitzerlandOnBehalfOf.pdf](http://www.un.org/disarmament/WMD/Nuclear/NPT2015/PrepCom2012/statements/20120502/SwitzerlandOnBehalfOf.pdf).

<sup>7</sup> See "Joint Statement on the Humanitarian Consequences of Nuclear Weapons," Delivered by New Zealand on behalf of 125 member states, 68th Session of the UN General Assembly First Committee, New York, October 21, 2013,

circumstances,” has proved problematic, however, for a number of US allies who claim to rely on the US extended nuclear deterrence.<sup>8</sup> Japan at the 2013 PrepCom and other states later at the First Committee tried to negotiate the removal of this formulation from the draft joint statements but the unacceptability of any use of nuclear weapons is a principled position for the states leading the initiative. At the 2013 First Committee session, Australia ended up delivering a separate statement on the humanitarian dimension, supported by 17 nations, most of them NATO members.<sup>9</sup> Japan, facing domestic pressure, joined both the Australian and New Zealand statements.

On March 4-5, 2013, Norway hosted the first international conference on the Humanitarian Impact of Nuclear Weapons. The conference agenda was focused on such issues as potential immediate effects of nuclear weapons use and preparedness for response. Conference participants included representatives of 127 states (including NPT outliers India and Pakistan), international organizations, and civil society organizations, including the International Committee of the Red Cross. The conference Chair’s summary stated that historical experience has demonstrated “devastating immediate and long-term effects” of nuclear weapons use and testing, and that “it is unlikely that any state or international body could address the immediate humanitarian emergency caused by a nuclear weapon detonation in an adequate manner.”<sup>10</sup>

The second international conference on the humanitarian impact took place in Nayarit, Mexico, on February 13-14, 2014. The agenda built upon the issues raised in Oslo, such as response capacity, but also addressed some of the longer-term effects and the risk of accidental use of nuclear weapons. Representatives of 146 countries attended the Nayarit conference along with the International Committee of the Red Cross, the Red Cross and Red Crescent Movement, several UN agencies, and a large number of civil society organizations.<sup>11</sup> Summarizing the presentations and discussion, the Nayarit conference Chair stated that the devastating impact of potential nuclear weapons use and the resources spent on maintaining and upgrading nuclear arsenals make the existence of such weapons “contrary to human dignity.”<sup>12</sup> The summary further stated that the path to achieving a world without nuclear weapons is to outlaw them, and that the humanitarian impact discussion should lead to a commitment to reach new international norms, through a legally binding instrument. Though welcomed by many among civil society, the latter statement caused consternation among a number of states, as it seemed to suggest that most of the conference

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[www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/21Oct\\_Joint.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/21Oct_Joint.pdf); “Joint Statement on the Humanitarian Impact of Nuclear Weapons,” delivered by South Africa on behalf of 80 states parties, Second Session of the Preparatory Committee for the 2015 NPT Review Conference, Geneva, April 24, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom13/statements/24April\\_SouthAfrica.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom13/statements/24April_SouthAfrica.pdf), and “Joint Statement on the Humanitarian Dimension of Nuclear Disarmament,” delivered by Switzerland on behalf of 34 member states, 67th Session of the United Nations General Assembly First Committee, October 22, 2012, New York, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/statements/22Oct\\_Switzerland.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/statements/22Oct_Switzerland.pdf).

<sup>8</sup> These countries include Japan, Australia, Germany, the Netherlands, and other NATO members. However, several NATO states, including Norway and Denmark, did join the humanitarian initiative statements.

<sup>9</sup> “Joint Statement on the Humanitarian Consequences of Nuclear Weapons” delivered by Ambassador Peter Woolcott on behalf of Australia, Belgium, Canada, Finland, Germany, Italy, Japan, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Slovakia, Spain, Sweden and Turkey, Australian Mission to the United Nations, New York, October 21, 2013, available at [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/21Oct\\_Australia2.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/21Oct_Australia2.pdf).

<sup>10</sup> Chair’s Summary, Humanitarian Impact of Nuclear Weapons, March 4-5, 2013, Oslo, Norway, [www.regjeringen.no/en/dep/ud/whats-new/Speeches-and-articles/e\\_speeches/2013/nuclear\\_summary.html?pid=716343](http://www.regjeringen.no/en/dep/ud/whats-new/Speeches-and-articles/e_speeches/2013/nuclear_summary.html?pid=716343).

<sup>11</sup> The list of participants is available on the conference site: [www.sre.gob.mx/en/images/stories/cih/registroparticipante.pdf](http://www.sre.gob.mx/en/images/stories/cih/registroparticipante.pdf).

<sup>12</sup> Chair’s Summary, Second Conference on the Humanitarian Impact of Nuclear Weapons, Nayarit, Mexico, February 14, 2014, [www.sre.gob.mx/en/index.php/humanimpact-nayarit-2014](http://www.sre.gob.mx/en/index.php/humanimpact-nayarit-2014).

participants had agreed on the need to quickly commence negotiations on a nuclear weapons ban. Some diplomats have subsequently pointed to the statement as substantiating their concern that the goal of the humanitarian initiative is to start a negotiating process parallel to the NPT. However, states active in the initiative still hold a variety of views on the next steps and their timing. The third humanitarian impact conference, due to take place in Vienna, Austria in late 2014, is expected to advance the discussions started in Oslo and Nayarit and also help clarify the direction the initiative should take.

The nuclear-weapon states reacted negatively to the initiative and collectively boycotted the conference in Oslo. Addressing the CD on March 5, 2013, NWS representatives argued that such initiatives were a “diversion” from what they said was a more practical step-by-step approach. They further cautioned against undermining the existing mechanisms and said the focus should be on beginning negotiations at the CD, which has been deadlocked for more than 15 years, and implementing the 2010 NPT Action Plan.<sup>13</sup> The NWS also did not attend the Nayarit conference, although this time, they did not seem to have as unified a position as last year, and there was no common NWS statement on the matter. Indeed, the United States considered attending the conference and held consultations with Mexico regarding the agenda. Ultimately, the two sides did not agree on the US proposals, and the United States did not attend.<sup>14</sup>

The NNWS have pointed out that the humanitarian dimension is referenced in Part A of the 2010 Action Plan itself, and that concern about the humanitarian consequences of nuclear weapons was at the root of early efforts and support for negotiating the NPT. As such, the humanitarian initiative does not undermine the Action Plan or the NPT, but is indeed meant to strengthen the treaty. This issue will continue to be prominent throughout the current review cycle and has the potential to define the 2015 Review Conference and reshape the debate in the longer term.

The most “actionable” phrasing in the Principles and Objectives is found in Point vi on universality of the NPT. There has been no progress in this area in the four years since the 2010 Review Conference, and there appears to be no reason to expect progress in the near future. In 2008, the Nuclear Suppliers Group (NSG) adopted an exemption to its guidelines, thus allowing nuclear trade with India, even though it does not have a comprehensive safeguards agreement and is not recognized as a nuclear weapon state under the NPT. Since then, several NPT parties have concluded or begun negotiating nuclear cooperation agreements with India, and none of them seem to have put forth conditions that would have advanced NPT universality. The United States, who initiated and promoted the NSG exemption, has also expressed support for India’s joining the suppliers’ group (which was created in response to India’s 1974 “peaceful nuclear explosion”).<sup>15</sup> France, Russia, and the United Kingdom have backed the idea, as well, and in November 2013, Australia announced that it also would support India’s NSG membership.<sup>16</sup> Though there is still resistance to the idea within the NSG, the proposal does nothing to encourage other outliers, especially Pakistan, to consider joining the NPT. India, Israel, and Pakistan are modernizing their nuclear arsenals, and the Democratic People’s Republic of Korea (DPRK), which withdrew from the NPT in 2003, conducted its third nuclear weapons test in February 2013.

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<sup>13</sup> For the NWS statements, please see Conference on Disarmament: Statements 2013, Reaching Critical Will, March 5, 2013, [www.reachingcriticalwill.org/disarmament-fora/cd/2013/statements](http://www.reachingcriticalwill.org/disarmament-fora/cd/2013/statements).

<sup>14</sup> Conversations with officials and experts familiar with the issue, February and March 2014.

<sup>15</sup> See “Joint Statement by President Obama and Prime Minister Singh of India,” The White House, November 8, 2010, [www.whitehouse.gov/the-press-office/2010/11/08/joint-statement-president-obama-and-prime-minister-singh-india](http://www.whitehouse.gov/the-press-office/2010/11/08/joint-statement-president-obama-and-prime-minister-singh-india).

<sup>16</sup> “Australia Will Support India’s Membership of the Nuclear Suppliers Group,” Media release, Minister for Foreign Affairs of Australia, November 18, 2013, [http://www.foreignminister.gov.au/releases/Pages/2013/jb\\_mr\\_131118a.aspx?ministerid=4](http://www.foreignminister.gov.au/releases/Pages/2013/jb_mr_131118a.aspx?ministerid=4).

## **Action 1: All States parties commit to pursue policies that are fully compatible with the Treaty and the objective of achieving a world without nuclear weapons.**

The formulation of Action 1 is broad, and the assessment of which policies are “fully” compatible with the Treaty and which are less so is not methodologically straightforward. There will inevitably be different interpretations of compatibility among various states parties and observers, particularly in already contested areas such as nuclear disarmament, implementation of safeguards, and exercise of Article IV rights. The action refers to the Treaty as a whole, but is placed in the Nuclear Disarmament section and specifically mentions the objective of a nuclear weapon-free world. With this in mind, the present monitoring report will review implementation of this action in the context of nuclear disarmament with a focus on the policies and activities of the five nuclear weapon states.

### ***Indicator 1.1. States' actions are consistent with the NPT provisions and objective of nuclear disarmament***

Policies that are judged as compatible with the Treaty in this regard include measures on reducing the role of nuclear weapons in national security doctrines, reductions in arsenals, efforts towards negotiating and concluding multilateral disarmament agreement(s), and a ban on nuclear testing. Conversely, activities that are incompatible with the Treaty (specifically Article VI and the preamble) include the build-up of arsenals, production of fissile material for weapons purposes, nuclear testing, more aggressive nuclear postures expanding the role of nuclear weapons (stipulating more scenarios of their potential use), and lack of commitment to achieving a world without nuclear weapons. All of the above areas also receive greater attention under specific action items.

Warhead refurbishment/stewardship/life extension programs constitute a grey area in the assessment. On the one hand, such programs, along with being necessary for safety, are reflective of nuclear weapon states’ decisions not to develop, produce and test new, qualitatively different nuclear warheads. At the same time, life extension programs can be interpreted as commitment to nuclear arsenals over the long-term. Furthermore, some states have recently produced new warheads and others are currently developing or planning the development and production of replacement warheads in the future, without resorting to explosive testing but using computer simulations and hydrodynamic experiments. Another challenge is the modernization of delivery systems. While not producing new types of warheads, these programs ensure extended ranges of delivery vehicles, greater effectiveness and longer service life, which in turn projects the existence of, and reliance on, nuclear weapons for decades ahead.<sup>17</sup>

#### **China**

China maintains the policy of minimum nuclear deterrence. China has for decades been considered to have the smallest nuclear arsenal among the five nuclear-weapon states, but, with an estimated stockpile of 250 warheads, has now surpassed the United Kingdom.<sup>18</sup> All information on its arsenal, however, is based on outside estimates, as China has never officially declared the size of its arsenal in terms of the number and type of warheads and delivery systems, deployed or non-deployed. It has

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<sup>17</sup> For a recent and comprehensive study of modernization efforts in nuclear weapon possessor states, please see Ray Acheson, ed., *Assuring Destruction Forever, Reaching Critical Will*, March 2012.

<sup>18</sup> Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: Chinese Nuclear Forces, 2013,” *Bulletin of the Atomic Scientists*, Vol. 69, no. 6 (November/December, 2013), p. 79, <http://bos.sagepub.com/content/69/6/79.full.pdf+html>.

not participated in any verifiable bilateral reductions, and has not publicly announced any unilateral reductions of its nuclear arsenal.

According to US sources, China is developing new nuclear weapon delivery systems, including road-mobile ballistic missiles, submarine-launched ballistic missiles, and nuclear-capable cruise missiles.<sup>19</sup> Some of these are replacing older systems that are being phased out, but on balance, experts argue that China is the only NWS with a growing arsenal.<sup>20</sup> The newer land-based systems that China has been deploying include solid-fuel road-mobile DF-21 (medium-range) and DF-31 (intercontinental) ballistic missiles, as well as DF-31A, an extended-range version of DF-31. The new systems are increasing the range and survivability of China's land-based nuclear forces.<sup>21</sup> Work is also ongoing on a new JL-2 submarine-launched ballistic missile (SLBM), which will be China's first operational SLBM. The development of the SLBM was reportedly "nearing completion" in 2013, and it was estimated that the SLBM would reach "initial operating capability" by end of 2013 or in 2014.<sup>22</sup> The new JIN-class strategic nuclear submarine (SSBN) reportedly can carry up to 36 single-warhead missiles. There are three JIN-class SSBNs currently in service, though they are not equipped with missiles yet.<sup>23</sup> The US Department of Defense argues that together, the JIN-class SSBN and JL-2 will give the Chinese navy "its first credible sea-based nuclear capability."<sup>24</sup>

China maintains an official moratorium on nuclear testing since 1996, and does not appear to be developing or producing new nuclear warheads.<sup>25</sup> It has not, however, ratified the Comprehensive Nuclear-Test-Ban Treaty (CTBT). China has not declared a moratorium on the production of fissile material for weapons purposes, but according to the International Panel on Fissile Materials, China had stopped producing material for nuclear weapons by 1990.<sup>26</sup>

China is the only nuclear weapon state that has an official no-first-use policy and declares that it will not use nuclear weapons against non-nuclear-weapon states.

## France

France maintains its total arsenal at a maximum of 300 nuclear warheads, a cap announced in 2008 by President Nicholas Sarkozy. According to a working paper submitted by France to the 2010 NPT Review Conference, the arsenal is "fewer than 300," and France does not keep any nuclear warheads

<sup>19</sup> "Military and Security Developments Involving the People's Republic of China 2011," Annual Report to Congress, US Department of Defense, 2011, [www.defense.gov/pubs/pdfs/2011\\_cmpr\\_final.pdf](http://www.defense.gov/pubs/pdfs/2011_cmpr_final.pdf); Hans M. Kristensen and Robert S. Norris, "Nuclear Notebook: Chinese Nuclear Forces, 2011," *Bulletin of the Atomic Scientists* 67 (November/December 2011), pp. 81–87, <http://bos.sagepub.com/content/67/6/81.full.pdf+html>.

<sup>20</sup> Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 79.

<sup>21</sup> Ibid, pp. 81-82.

<sup>22</sup> Wendell Minnick, "US Report: First Sub-Launched Nuke Missile Among China's Recent Strides," Defense News, November 11, 2013, [www.defensenews.com/apps/pbcs.dll/article?AID=201311110015](http://www.defensenews.com/apps/pbcs.dll/article?AID=201311110015) and Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 83.

<sup>23</sup> Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 83.

<sup>24</sup> "Military and Security Developments Involving the People's Republic of China 2012," Annual Report to Congress, US Department of Defense, May 2012, p. 23, [www.defense.gov/pubs/pdfs/2012\\_CMPR\\_Final.pdf](http://www.defense.gov/pubs/pdfs/2012_CMPR_Final.pdf)

<sup>25</sup> Gregory Kulacki, "China's Nuclear Arsenal: Status and Evolution," Union of Concerned Scientists, October 2011, [www.ucsusa.org/assets/documents/nwgs/UCS-Chinese-nuclear-modernization.pdf](http://www.ucsusa.org/assets/documents/nwgs/UCS-Chinese-nuclear-modernization.pdf); Jeffrey Lewis, *The Minimum Means of Reprisal: China's Search for Security in the nuclear Age* (The MIT Press, 2007).

<sup>26</sup> "Global Fissile Material Report 2010. Balancing the Books: Production and Stocks," International Panel on Fissile Materials, December 2010, [www.fissilematerials.org/ipfm/site\\_down/gfmr10.pdf](http://www.fissilematerials.org/ipfm/site_down/gfmr10.pdf) and "Countries: China," IPFM blog, <http://fissilematerials.org/countries/china.html>.

in reserve.<sup>27</sup> After canceling the ground-based leg of its nuclear triad in 1996, France deploys nuclear weapons on submarines (a fleet of four) and aircraft.<sup>28</sup>

France's new White Paper on national defense (*Livre Blanc*), released in 2013, reaffirms the role of nuclear weapons in national security and describes nuclear deterrence (dissuasion) as the ultimate guarantee of French sovereignty.<sup>29</sup> Nuclear deterrence is further described as "strictly defensive" but with a vaguely defined purpose to "prevent a state-originated aggression against the vital interests of the country, from whatever direction and in whatever form."<sup>30</sup> Nuclear deterrence is also supposed to protect France's freedom of decision-making and freedom of action "within the framework of [its] international responsibilities."<sup>31</sup> France appears, therefore, to place nuclear weapons at the heart of its national security and does not rule out their use against non-nuclear-weapon states.

As part of its arsenal modernization, France has upgraded its nuclear-capable aircraft fleet. In 2011, it completed the deployment of modernized air-launched cruise missiles (ASMP/A), equipped with a new "robust" warhead, TNA.<sup>32</sup> "Le Terrible," a new SSBN, entered service in September 2010. It deploys a new submarine-launched intercontinental ballistic missile "with a much-extended range" (M51) and plans to equip its other three SSBNs with this missile by 2015. According to the 2008 *Livre Blanc*, in 2015, France will also begin the deployment of a modified version of this SLBM (M51.2), which will be mated with a new warhead, the TNO, developed on the basis of a "concept validated during the final series of nuclear tests in 1995 (sic)".<sup>33</sup> The deployment of TNO (*tête nucléaire océanique*) is to be completed by 2018.

In November 2010, France concluded an agreement with the United Kingdom on a new defense partnership aimed to increase cooperation between the two countries on a number of projects, including shared nuclear warhead research and simulation centers, which would allow them "to test the safety of their nuclear warheads" without conducting actual nuclear explosive tests.<sup>34</sup> Under the agreement, France is constructing at Valduc a radiographic and hydrodynamics facility called EPURE, which is expected to become operational in 2014.<sup>35</sup> The work on the UK side is also underway. In the

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<sup>27</sup> "Nuclear disarmament: France's practical commitment," Working paper submitted by France to the 2010 NPT Review Conference, 14 April 2010, NPT/CONF.2010/WP.33.

<sup>28</sup> As a result of eliminating the ground-based leg, 30 short range Hades mobile missiles were dismantled by 1997, and 18 S3D strategic missiles were dismantled by 1998. The Plateau d'Albion, previously the base for ground-based nuclear forces in France, was also dismantled in 1998. "Dismantling the ground-to-ground component," *What France Has Done*, Booklet published by France TNP, [www.francetnp2010.fr/spip.php?article92](http://www.francetnp2010.fr/spip.php?article92); "Dismantling the ground-to-ground component," Working paper submitted by France to the 2010 NPT Review Conference, 12 April 2010, NPT/CONF.2010/WP.35.

<sup>29</sup> In reference to nuclear deterrence, the 2013 *Livre Blanc* states that, "La dissuasion nucléaire est l'ultime garantie de notre souveraineté." *Livre blanc du défense et sécurité nationale*, May 2013, p. 20, [http://www.gouvernement.fr/sites/default/files/fichiers\\_joints/livre-blanc-sur-la-defense-et-la-securite-nationale\\_2013.pdf](http://www.gouvernement.fr/sites/default/files/fichiers_joints/livre-blanc-sur-la-defense-et-la-securite-nationale_2013.pdf).

<sup>30</sup> Ibid., p. 75. The formulation repeats the language used in the 2008 *Livre blanc*. For a discussion of what France's "vital interests" might be, please see Bruno Tertrais, "The Last to Disarm? The Future of France's Nuclear Weapons," *Nonproliferation Review*, Vol. 14, No. 2 (July 2007), pp. 251-273.

<sup>31</sup> 2013 *Livre Blanc*, p. 75.

<sup>32</sup> "L'avenir des forces nucléaires françaises," Rapport d'information No. 668 (2011-2012) de la commission des affaires étrangères et de la défense, July 12, 2012, [www.senat.fr/rap/r11-668/r11-668\\_mono.html#toc40](http://www.senat.fr/rap/r11-668/r11-668_mono.html#toc40).

<sup>33</sup> *Livre blanc du défense et sécurité nationale* (The French White Paper on Defence and National Security), 2008, p. 162.

<sup>34</sup> Adrian Croft and Emmanuel Jarry, "France, UK agree to unprecedented military cooperation," Reuters, November 1, 2010, [www.reuters.com/article/2010/11/02/britain-france-idUSLAG00638720101102](http://www.reuters.com/article/2010/11/02/britain-france-idUSLAG00638720101102).

<sup>35</sup> "L'avenir des forces nucléaires françaises." See also CEA website, [www-lmj.cea.fr/en/simulation-program/airix.htm](http://www-lmj.cea.fr/en/simulation-program/airix.htm).

Declaration on Security and Defense, issued at the end of the UK-France Summit in January 2014, the two states said they were “making excellent progress” in the development of EPURE. They also agreed to expand cooperation and subject “more of the technical and scientific data that underpins warhead certification to peer review,” as well as conduct joint research at the UK’s Atomic Weapons Establishment laser facilities.<sup>36</sup>

Since 2008, France has not announced any further reductions in its nuclear arsenal. It is not party to any bilateral or plurilateral nuclear arms reduction agreements. France does not produce fissile material for weapons purposes, having announced the dismantlement of its Marcoule and Pierrelatte facilities in 2008.<sup>37</sup> France is a party to the CTBT and dismantled its nuclear testing center in the Pacific (*Centre d’expérimentation du Pacifique*) in 1998.

### Russia

Russia is believed to possess the largest overall stockpile of nuclear warheads, though this has never been officially confirmed. Latest estimates from the *Bulletin of the Atomic Scientists* placed the size of Russia’s arsenal, as of March 2013, at about 2,300 strategic and 2,000 non-strategic warheads, to an estimated total of about 4,300 warheads, both deployed and in storage. There are also an estimated 3,500 warheads awaiting dismantlement.<sup>38</sup>

Russia, together with the United States, is party to New START, which requires the two states to reduce, by 2018, their deployed warheads to no more than 1,550; deployed ICBMs, SLBMs, and heavy bombers to no more than 700, and deployed and non-deployed launchers to no more than 800.<sup>39</sup> As of March 2014, Russia deployed 498 strategic missiles and bombers, and 1,512 warheads.<sup>40</sup> New START has extensive bilateral verification provisions, but is not subject to verification by any third party.

Russia’s current military doctrine, released in February 2010, foresees a role for nuclear weapons in a potential large-scale or regional war. It stipulates that nuclear weapons might be used in response to a nuclear attack, an attack with other WMD, or “in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat.”<sup>41</sup> This has raised somewhat the threshold for employing nuclear weapons compared to the 2000 doctrine, but Russia does not have a no-first-use policy and does not unconditionally pledge to not use nuclear weapons against non-nuclear weapon states.<sup>42</sup>

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<sup>36</sup> “Declaration on Security and Defence,” UK-France Summit, January 31, 2014, [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/277167/France-UK\\_Summit-Declaration\\_on\\_Security\\_and\\_Defence.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/277167/France-UK_Summit-Declaration_on_Security_and_Defence.pdf).

<sup>37</sup> “Nuclear disarmament: a concrete step by France. Visit to France’s former fissile material production facilities for nuclear weapons,” a Working Paper submitted by France to the Third Session of the Preparatory Committee for the 2010 NPT Review Conference, May 13, 2009, NPT/CONF.2010/PC.III/WP.37.

<sup>38</sup> Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: Russian Nuclear Forces, 2014,” *Bulletin of the Atomic Scientists*, Vol. 70, no. 2 (March/April 2014), p. 75. The drop in the number of warheads awaiting dismantlement since 2011 is about 2,000, with the estimate based on Russia’s previous rate of dismantlement of about 1,000 warheads a year. Correspondence with Hans M. Kristensen, April 2014.

<sup>39</sup> New START text, [www.state.gov/documents/organization/140035.pdf](http://www.state.gov/documents/organization/140035.pdf)

<sup>40</sup> “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated April 1, 2014.

<sup>41</sup> Russian Federation Presidential edict, “The Military Doctrine of the Russian Federation,” February 5, 2010.

<sup>42</sup> For analysis, please see Nikolai Sokov, “The New, 2010 Russian Military Doctrine: The Nuclear Angle,” James Martin Center for Nonproliferation Studies, February 5, 2010, [cns.miis.edu/stories/100205\\_russian\\_nuclear\\_doctrine.htm](http://cns.miis.edu/stories/100205_russian_nuclear_doctrine.htm).

Russia continues to actively modernize its delivery systems. In August 2010, Russian Foreign Minister Sergey Lavrov wrote that, “[Russia’s] decision to continue cutting and limiting strategic offensive weapons does not mean that we are giving up the modernization of strategic nuclear forces at this stage. As long as nuclear weapons exist, Russia’s national security must be strengthened by phasing in modern, more effective and reliable types of strategic offensive weapons in conditions of coordinated and planned reduction of their aggregate amount.”<sup>43</sup> In February 2011, Russian First Deputy Minister of Defense Vladimir Popovkin told journalists that around \$70 billion would be spent on Russia’s strategic triad of land, sea, and air nuclear forces between 2011 and 2020.<sup>44</sup>

Russia is in the process of complete restructuring of its land-based nuclear forces. It has been retiring SS-18, SS-19, and SS-25 land-based missiles, replacing them with SS-27s (Topol-M).<sup>45</sup> In addition to the silo-based single-warhead (RS-12M2) and mobile single-warhead (RS-12M1) variations of SS-27, the newest modification, known as RS-24 Yars, is equipped with multiple independently-targeted re-entry vehicles (MIRV).<sup>46</sup> The deployment of the road-mobile version of RS-24 began in March 2010.<sup>47</sup> In December 2013, Russia started testing the silo-based version of RS-24 Yars, and its deployment is set to begin in 2014.<sup>48</sup> Russia reportedly plans to replace 98 percent of its land-based missile forces by 2021.<sup>49</sup>

Russia is pursuing two more modernization projects for its land-based delivery systems, reportedly in response to the US ballistic missile defense work. First is the development of a new “heavy” liquid-fuel ICBM with “enhanced capability” to overcome ballistic missile defense.<sup>50</sup> The development of this ICBM (known as Sarmat) is reportedly planned to be completed in 2018-2020. The new missile will eventually replace SS-18 (“Satan”).<sup>51</sup> The second project is the development of a new solid-fuel ICBM. In May 2012, Russia successfully test launched a prototype of the new missile from a mobile launch platform and conducted several more tests subsequently. Sources report that the new model is based on the Topol-M and Yars systems and will eventually replace

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<sup>43</sup> Interfax News Agency, Russia and CIS Military Weekly, August 6, 2010, accessed through Lexis-Nexis.

<sup>44</sup> Pavel Podvig, ‘Russia to Spend \$70 billion on strategic forces by 2020,’ Russian Strategic Forces blog, February 24, 2011, [http://russianforces.org/blog/2011/02/russia\\_to\\_spend\\_70\\_billion\\_on.shtml](http://russianforces.org/blog/2011/02/russia_to_spend_70_billion_on.shtml).

<sup>45</sup> Kristensen and Norris, “Russian Nuclear Forces, 2011.”

<sup>46</sup> Kristensen and Norris, “Russian Nuclear Forces, 2011.”

<sup>47</sup> Pavel Podvig, “Deployment of First Full Regiment of RS-24 Is Completed,” Russian Strategic Nuclear Forces blog, July 7, 2011, [http://russianforces.org/blog/2011/07/deployment\\_of\\_the\\_first\\_full\\_r.shtml](http://russianforces.org/blog/2011/07/deployment_of_the_first_full_r.shtml); quoting «Арсенал прирастает Ярсами», Военно-Промышленный Курьер, July 6, 2011, <http://vpk-news.ru/articles/7844>; RIA Novosti, May 21, 2012.

<sup>48</sup> “Ракета 'Ярс' шахтного базирования успешно поразила цель” (“Silo-Based Yars Missile Successfully Hits Target”), Interfax, December 24, 2013, [www.interfax.ru/russia/348608](http://www.interfax.ru/russia/348608).

<sup>49</sup> Jerry Davydov and Bryan Lee, “Russia’s Nuclear Rearmament: Policy Shift or Business as Usual?” NTI, December 18, 2013, [www.nti.org/analysis/articles/russias\\_nuclear\\_rearment\\_policy\\_shift\\_or\\_business\\_as\\_usual/](http://www.nti.org/analysis/articles/russias_nuclear_rearment_policy_shift_or_business_as_usual/).

<sup>50</sup> “Россия создаст стратегическую ракету с повышенными возможностями по преодолению ПРО” (“Russia Will Develop a New Strategic Missile with Enhanced Capabilities to Overcome BMD”), Interfax, December 16, 2011, [www.interfax.ru/politics/news.asp?id=222259](http://www.interfax.ru/politics/news.asp?id=222259).

<sup>51</sup> The new missile is expected to weigh 100 tons and be capable of carrying a 10-ton payload. “PBCH России: Перспективы” (“Russian Strategic Rocket Forces: Prospects”), Novosti VPK, February 27, 2014, [http://vpk.name/news/106052\\_rvsn\\_rossii\\_perspektivyi.html](http://vpk.name/news/106052_rvsn_rossii_perspektivyi.html). Russian media previously reported that the preliminary design of the new liquid-fuel ICBM was approved in 2012, and that its production would be completed in 2018. It is unclear whether it was erroneous reporting, or the Russian Strategic Rocket Forces have changed the plans. See “Производство новейшей тяжелой МБР начнется до конца года - PBCH” (“Production of the New Heavy ICBM to Start by End of Year, Strategic Rocket Forces Say”), RIA Novosti, October 19, 2012, [http://ria.ru/defense\\_safety/20121019/904435023.html](http://ria.ru/defense_safety/20121019/904435023.html).

them.<sup>52</sup> In December 2013, Commander of Russian Strategic Rocket Forces Sergey Karakaev told Russian media that this new missile, called RS-26 Rubezh, is expected to enter into service in 2015.<sup>53</sup>

Modernization of SSBNs and SLBMs continues, as well. After years of development and testing, in January 2012, the Russian Defense Ministry approved the contract “for the manufacture of Bulava SLBMs through 2020.”<sup>54</sup> This new missile is supposed to be deployed on new Borey class strategic submarines and was officially accepted for service in January 2013.<sup>55</sup> The deployment, however, has been postponed, with new tests scheduled for 2014.<sup>56</sup> Russia is planning to build up to eight Borey and Borey-A class SSBNs (three Borey, or Project 955, and five Borey-A, or Project 955A), each designed to be armed with 16 Bulava missiles.<sup>57</sup> The first Borey class submarine, “Yuri Dolgorukii,” officially entered service in January 2013, though it will not receive Bulava SLBMs until 2014.<sup>58</sup> The second Project 955 (Borey) submarine, “Alexander Nevsky,” entered into service in December 2013 and was assigned to the Pacific Fleet. The third boat, “Vladimir Monomakh,” began sea trials in January 2013 and is expected to enter service in 2014.<sup>59</sup> Construction of the first Project 955A submarine, “Knyaz Vladimir” (previously known as “Sviatitel Nikolai”), is ongoing. Russia plans to complete all eight Borey class submarines by 2020.<sup>60</sup>

In 2012, Russia completed the first stage of modernization and life extension of its older, Delta IV class submarines, which included “the installation of the new modification of the RSM-54 Sineva missile.”<sup>61</sup> In the meantime, Russia has also started the second stage of

<sup>52</sup> “Ракета-прототип испытана” (“Missile Prototype Tested”), Interfax, May 23, 2012, [www.interfax.ru/politics/txt.asp?id=247020](http://www.interfax.ru/politics/txt.asp?id=247020); “Россия впервые заявила о разработке новой твердотопливной МБР” (“Russia for the First Time Announced the Development of a New Solid-Fuel ICBM”), RIA Novosti, December 12, 2012, [http://ria.ru/arms\\_news/20121214/914770635.html](http://ria.ru/arms_news/20121214/914770635.html).

<sup>53</sup> “С 2015 года РВСН планируют начать постановку на боевое дежурство ракетного комплекса с МБР РС-26” (“Russian Strategic Rocket Forces Plan to Begin Deployment of RS-26 ICBM in 2015”), Novosti VPK, December 18, 2013, [http://vpk.name/news/102404\\_s\\_2015\\_goda\\_rvsn\\_planiruyut\\_nachat\\_postanovku\\_na\\_boevoe\\_dezhurstvo\\_raketnogo\\_kompleksa\\_s\\_mbr\\_rs26.html](http://vpk.name/news/102404_s_2015_goda_rvsn_planiruyut_nachat_postanovku_na_boevoe_dezhurstvo_raketnogo_kompleksa_s_mbr_rs26.html).

<sup>54</sup> “Defense Ministry Signs Bulava Missile Contract,” RIA Novosti, January 24, 2012, [http://en.rian.ru/military\\_news/20120124/170925888.html](http://en.rian.ru/military_news/20120124/170925888.html)

<sup>55</sup> “Р-30 «Булава» - российская МБР морского базирования” (“R-30 ‘Bulava’ Is a Russian SLBM”), Novosti VPK, January 15, 2013, [http://vpk.name/news/82443\\_r30\\_bulava\\_rossiiskaya\\_mbr\\_morskogo\\_bazirovaniya.html](http://vpk.name/news/82443_r30_bulava_rossiiskaya_mbr_morskogo_bazirovaniya.html)

<sup>56</sup> Podvig, “Bulava Production Numbers,” Russian Strategic Nuclear Forces, January 25, 2014, [http://russianforces.org/blog/2014/01/bulava\\_production\\_numbers.shtml](http://russianforces.org/blog/2014/01/bulava_production_numbers.shtml).

<sup>57</sup> SIPRI 2011 Yearbook, p. 333. Note that Russia previously planned to arm the Project 955A submarines with 20 Bulava missiles each, but in February 2013, it was reported that all eight planned new SSBNs will carry 16 Bulavas each. See Podvig, “Project 955A Submarines to Carry 16 Missiles,” February 21, 2013, [http://russianforces.org/blog/2013/02/project\\_955a\\_submarines\\_to\\_car.shtml](http://russianforces.org/blog/2013/02/project_955a_submarines_to_car.shtml).

<sup>58</sup> Pavel Podvig, “Yuri Dolgorukiy Submarine Officially Accepted for Service,” Russian Strategic Nuclear Forces, January 10, 2013, [http://russianforces.org/blog/2013/01/yuri\\_dolgorukiy\\_submarine\\_offi.shtml](http://russianforces.org/blog/2013/01/yuri_dolgorukiy_submarine_offi.shtml)

<sup>59</sup> “Госиспытания АПЛ «Александр Невский» начнутся в декабре” (“State Trials of SSBN Alexander Nevsky to Start in December”), RG.ru, November 20, 2012, [www.rg.ru/2012/11/20/reg-szfo/nevsky-anons.html](http://www.rg.ru/2012/11/20/reg-szfo/nevsky-anons.html); Pavel Podvig, “Two Project 955 Submarines – Vladimir Monomakh Launched, Yuri Dolgorukiy Postponed,” Russian Strategic Nuclear Forces, December 30, 2012, [http://russianforces.org/blog/2012/12/two\\_project\\_955\\_submarines\\_v.shtml](http://russianforces.org/blog/2012/12/two_project_955_submarines_v.shtml); “Стратегическая подводная лодка ‘Владимир Мономах’ приступила к швартовым испытаниям” (“SSBN Vladimir Monomakh Began Sea Trials”), Korabel.ru, January 18, 2013, [www.korabel.ru/news/comments/strategicheskaya\\_podvodnaya\\_lodka\\_vladimir\\_monomah\\_pristupila\\_k\\_shvartovym\\_ispitaniyam.html](http://www.korabel.ru/news/comments/strategicheskaya_podvodnaya_lodka_vladimir_monomah_pristupila_k_shvartovym_ispitaniyam.html)

<sup>60</sup> “Атомный крейсер ‘Александр Невский’ передан российскому флоту” (“‘Alexander Nevsky’ SSBN Transferred to Russian Navy”), Interfax, December 23, 2013, [www.interfax.ru/russia/348387](http://www.interfax.ru/russia/348387).

<sup>61</sup> SIPRI 2011 Yearbook, p. 333 and “ВМФ получил отремонтированную атомную подлодку Новомосковск” [“Russian Navy Received Refurbished Nuclear Submarine Novomoskovsk”], RIA Novosti, July 30, 2012, [http://ria.ru/defense\\_safety/20120730/712714259.html](http://ria.ru/defense_safety/20120730/712714259.html).

upgrading Delta IV submarines, beginning with “Verkhoturye” SSBN, which returned to service after second-stage life extension in December 2012.<sup>62</sup> The “Yekaterinburg” SSBN, damaged in a fire in 2011, is currently undergoing repairs and life-extension upgrades, and is expected to return to service in 2014.<sup>63</sup> In early 2014, Russia accepted into service a new Liner SLBM (a modification of Sineva), to be deployed on Delta IV submarines. Liner can reportedly carry up to 10 warheads and can be equipped with warheads of a new type developed for Yars and Bulava.<sup>64</sup> In March 2011, Russian media reported that Russia was also “planning to develop its newest fifth-generation submarine by 2020.”<sup>65</sup>

Russia also appears to be working on at least one new warhead: between December 2011 and March 2014, Strategic Rocket Forces reportedly have conducted several tests of a “new combat payload” for ICBMs.<sup>66</sup> Russia’s Air Force planned to complete the modernization of strategic bombers, Tu-160, by 2017, but, according to Russian media, in 2013 the deadline was postponed indefinitely.<sup>67</sup> Finally, research and development is underway on a new strategic bomber: its conceptual design was reportedly approached in 2013, and the work is expected to be completed by 2025.<sup>68</sup>

Russia is a party to the CTBT and has maintained a moratorium on explosive nuclear testing since 1990. Russia also maintains an official moratorium on the production of fissile material for weapons purposes and is engaged in material disposition programs through its agreements with the United States (see Action 16).

## United Kingdom

The United Kingdom maintains the posture of “minimum nuclear deterrent,” and the October 2010 Strategic Defence and Security Review (SDSR) stipulates that the United Kingdom would consider using nuclear weapons only “in extreme circumstances of self-defence, including the defence of [North Atlantic Treaty Organization] NATO allies.”<sup>69</sup> Specifics of such extreme circumstances are not discussed. However, the United Kingdom announced in the 2010 SDSR the provision of negative security assurances to all states parties to the NPT, if they are not “in material breach of

<sup>62</sup> “Центр судоремонта ‘Звездочка’ передал флоту РПКСН Верхогорье” [“Ship Repair Center ‘Zvezdochka’ Transferred SSBN ‘Verhoturye’ to the Navy”], star.ru, December 30, 2012, [www.star.ru/index.php?page=979](http://www.star.ru/index.php?page=979).

<sup>63</sup> “Пострадавшую от пожара АПЛ ‘Екатеринбург’ вернут флоту через два года” (“Fire-damaged ‘Yekaterinburg’ SSBN Will Be Returned to the Navy in Two Years”), Interfax, July 30, 2012, [www.interfax.ru/258165](http://www.interfax.ru/258165).

<sup>64</sup> Podvig, “Liner Version of the R-29RM SLBM Accepted to for Service,” Russian Strategic Nuclear Forces, April 4, 2014, [http://russianforces.org/blog/2014/04/liner\\_version\\_of\\_the\\_r-29rm\\_sl.shtml](http://russianforces.org/blog/2014/04/liner_version_of_the_r-29rm_sl.shtml) and “Liner SLBM Explained,” Russian Strategic Nuclear Forces, October 4, 2011, [http://russianforces.org/blog/2011/10/liner\\_slbm\\_explained.shtml](http://russianforces.org/blog/2011/10/liner_slbm_explained.shtml).

<sup>65</sup> “Russian 5G Subs to Be Equipped with Ballistic, Cruise Missiles – Source,” RIA Novosti, March 19, 2011, [en.rian.ru/military\\_news/20110319/163091053.html](http://en.rian.ru/military_news/20110319/163091053.html), quoted in Kristensen and Norris, “Russian Nuclear Forces, 2011.”

<sup>66</sup> Pavel Podvig, “New Warhead Tested in a UR-100NUTTH/SS-19 Launch,” Russian Strategic Nuclear Forces blog, December 27, 2011, [http://russianforces.org/blog/2011/12/new\\_warhead\\_tested\\_in\\_a\\_ur-100.shtml](http://russianforces.org/blog/2011/12/new_warhead_tested_in_a_ur-100.shtml); Podvig, “Topol Launch from Kapustin Yar Tests New Combat Payload,” Russian Strategic Nuclear Forces, October 10, 2013, [http://russianforces.org/blog/2013/10/topol\\_launch\\_from\\_kapustin\\_yar\\_1.shtml](http://russianforces.org/blog/2013/10/topol_launch_from_kapustin_yar_1.shtml); Podvig, “Another New Warhead Test in a Topol Launch,” Russian Strategic Nuclear Forces, March 4, 2014, [http://russianforces.org/blog/2014/03/another\\_new\\_warhead\\_test\\_in\\_a.shtml](http://russianforces.org/blog/2014/03/another_new_warhead_test_in_a.shtml).

<sup>67</sup> “Модернизация Ту-160 снова откладывается” (“Tu-160 Modernization Postponed Again”), *Izvestiya*, November 11, 2013, <http://izvestia.ru/news/560374>.

<sup>68</sup> Pavel Podvig, “Russia Begins R&D on a New Strategic Bomber,” December 28, 2011, [http://russianforces.org/blog/2011/12/russia\\_begins\\_rd\\_on\\_a\\_new\\_stra.shtml](http://russianforces.org/blog/2011/12/russia_begins_rd_on_a_new_stra.shtml), and Kristensen and Norris, “Russian Nuclear Forces, 2014.”

<sup>69</sup> “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,” October 2010, p. 37.

those non-proliferation obligations.”<sup>70</sup> The UK also reserves the right to revise this position in the event of “future threat, development and proliferation” of chemical and biological weapons.<sup>71</sup>

Following the 2010 NPT Review Conference, the United Kingdom announced new reductions to its arsenal. According to the October 2010 SDSR, the United Kingdom will reduce its overall stockpile to “no more than 180” warheads, compared to no more than 225 announced in May 2010. They further committed to reduce the “requirement for operationally available warheads from fewer than 160 to no more than 120.” Reductions are supposed to take effect over “the next few years,” with the achievement of the stockpile ceiling of no more than 180 warheads expected “in mid-2020s.”<sup>72</sup> In June 2011, the government informed Parliament that the 120-warhead target for deployed weapons was expected to be reached by the middle of this decade.<sup>73</sup> The United Kingdom also decided to further lower the operational status of its nuclear arsenal, announcing the intent to “reduce the number of operation launch tubes” on its submarines to eight (from 12), and the maximum number of warheads carried by each submarine from 48 to 40.<sup>74</sup>

All of the UK nuclear weapons are sea-based, and its only delivery system is Trident II D-5 SLBM, deployed on Vanguard-class submarines. In 2007, the UK Parliament voted to maintain a nuclear deterrent and continue to deploy Trident, which necessitates procuring a replacement carrier. The United Kingdom has decided to extend the service life of the Vanguard SSBN, since a replacement submarine is not expected to be ready in time to retire Vanguard in 2024.<sup>75</sup> The debate on continued reliance on Trident and production of a new SSBN to deploy it continues, affected in large part by budgetary considerations. A study on alternatives to replacing the Vanguard SSBNs, conducted at the request of the Liberal Democrats, was released in July 2013. The Trident Alternatives Review examined options for UK nuclear forces for 2030-2060 in terms of basing systems, delivery vehicles, and posture. The options ranged from deploying nuclear cruise missiles aboard surface ships to deploying Trident missiles in land-based silos, as well as several options for deploying nuclear weapons on different kinds of submarines. The review did not include an option for the United Kingdom to give up nuclear weapons altogether. The study was not meant to be an expression of government policy, nor did it make any recommendations.<sup>76</sup>

Another factor affecting the debate is the prospect of Scotland voting for independence in the referendum scheduled for September 18, 2014, and subsequently choosing not to host the UK nuclear submarines base at Clyde. The Scottish National Party’s conference voted in March 2013 that independent Scotland’s constitution would ban the possessions, basing, and housing of nuclear

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<sup>70</sup> Ibid., p. 38.

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> Secretary of State for Defence Dr. Liam Fox, statement before the Parliament, June 29, 2011, [www.publications.parliament.uk/pa/cm201011/cmhänsrd/cm110629/wmstext/110629m0001.htm](http://www.publications.parliament.uk/pa/cm201011/cmhänsrd/cm110629/wmstext/110629m0001.htm).

<sup>74</sup> Ibid.

<sup>75</sup> Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: British nuclear forces, 2011,” *Bulletin of the Atomic Scientists*, Vol. 67, no. 5 (September 2011).

<sup>76</sup> “Trident Alternatives Review,” Cabinet Office and National Security and Intelligence, Commissioned by the Prime Minister and Deputy Prime Minister of the United Kingdom, July 16, 2013, [www.gov.uk/government/publications/trident-alternatives-review](http://www.gov.uk/government/publications/trident-alternatives-review).

weapons.<sup>77</sup> The UK coalition government, however, has informed Parliament that it “has no plans to unilaterally disarm” nor does it “intend to conduct any review of the future of the UK deterrent.”<sup>78</sup>

In the meantime, design work on the new class of submarines meant to replace Vanguard is in progress, although the “main gate” decision on investment (including “detailed acquisition plans, design and number of submarines”) has been postponed until 2016.<sup>79</sup> A decision on the replacement of the current warhead—which is expected to last for another decade or so—was also deferred until later. In May 2011, Defense Secretary Liam Fox announced that the design of a new generation SSBN, “together with £3 billion of initial contracts, had been agreed ahead of the final decision on replacing the existing fleet due in 2016.”<sup>80</sup> An additional £3 billion (total of £6 billion) is likely to be spent on the new submarines prior to the 2016 decision.<sup>81</sup>

Another project underway, known as Project MENSA, is the construction of a new warhead assembly/disassembly facility at the Atomic Weapons Establishment (AWE) at Burghfield, expected to be completed in 2015.<sup>82</sup> The facility will presumably work on the replacement warhead for Trident. Construction of the Technology Development Centre, which will support the UK-France cooperation on hydrodynamics research under the 2010 cooperation agreement, is also ongoing and will reportedly be completed in 2014.<sup>83</sup> At the UK-France Summit in January 2014, the two states expressed their satisfaction with the progress of the program and agreed to expand cooperation, including through joint research at the AWE laser facilities (see the section on France above).

The United Kingdom has maintained an official moratorium on the production of fissile material for weapons purposes since 1995.<sup>84</sup> It has not conducted nuclear test explosions since 1991, and ratified the CTBT in 1998. The United Kingdom does not have its own nuclear test site.

## United States

The United States has the world’s most advanced nuclear weapons arsenal. In May 2010, the United States, for the first time, revealed the total number of warheads in its active arsenal, i.e., deployed and non-deployed, strategic and non-strategic, as of September 30, 2009.<sup>85</sup> The number—5,113 warheads—did not include the thousands of retired warheads awaiting dismantlement. There are

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<sup>77</sup> SNP is Scotland’s largest political party. Scott Macnab, “SNP Conference: Support for Nuclear Weapons Ban,” *The Scotsman*, March 24, 2013, [www.scotsman.com/news/politics/top-stories/snp-conference-support-for-nuclear-weapons-ban-1-2854686](http://www.scotsman.com/news/politics/top-stories/snp-conference-support-for-nuclear-weapons-ban-1-2854686).

<sup>78</sup> “The Referendum on Separation for Scotland: Terminating Trident – Days or Decades?: Government Response to the Committee’s Fourth Report of Session 2012-2013,” House of Commons, Scottish Affairs Committee, January 9, 2013, [www.publications.parliament.uk/pa/cm201213/cmselect/cmsscotaf/861/861.pdf](http://www.publications.parliament.uk/pa/cm201213/cmselect/cmsscotaf/861/861.pdf). The UK government appears to work on the assumption that Scotland will not choose independence or at least will not ask for the removal of the UK submarine base.

<sup>79</sup> Ibid.

<sup>80</sup> Gavin Cordon, “Trident Alternatives to Be Assessed,” *The Independent*, May 18, 2011, [www.independent.co.uk/news/uk/home-news/trident-alternatives-to-be-assessed-2285757.html](http://www.independent.co.uk/news/uk/home-news/trident-alternatives-to-be-assessed-2285757.html).

<sup>81</sup> “MOD Softens under Pressure on Trident,” Campaign for Nuclear Disarmament, December 9, 2011, [www.cnduk.org/media/item/1305-mod-soften-under-pressure-on-trident](http://www.cnduk.org/media/item/1305-mod-soften-under-pressure-on-trident).

<sup>82</sup> “AWE Construction Program Continues to Make Headway,” *Nuclear Information Service*, January 30, 2013, [www.nuclearinfo.org/article/awe-aldermaston-awe-burghfield/awe-construction-programme-continues-make-headway](http://www.nuclearinfo.org/article/awe-aldermaston-awe-burghfield/awe-construction-programme-continues-make-headway).

<sup>83</sup> Ibid.

<sup>84</sup> See UK statement at the 2010 NPT Review Conference and SIPRI 2011 Yearbook, Annex A.

<sup>85</sup> “Fact Sheet: Increasing Transparency in the U.S. Nuclear Weapons Stockpile,” US Department of Defense, May 3, 2010.

indications that the arsenal has decreased by about 500 since then, though no official update has been released (see Action 3).

The United States, together with Russia, is party to New START, which requires the two states to reduce, by 2018, their deployed warheads to no more than 1,550; deployed ICBMs, SLBMs and heavy bombers to no more than 700; and deployed and non-deployed launchers to no more than 800.<sup>86</sup> As of March 2014, the United States deployed 778 strategic missiles and bombers, and 1,585 warheads (see Action 4).<sup>87</sup>

Current US policy continues to be guided by the “Prague Agenda” outlined by President Obama in a major speech in April 2009. The speech signaled a shift in US policy towards reducing the reliance on nuclear weapons. Although President Obama announced the commitment to “seek the peace and security of a world without nuclear weapons,” he also emphasized that as long as nuclear weapons exist, the United States would maintain a “safe, secure and effective arsenal.”<sup>88</sup>

Released a month before the 2010 NPT Review Conference, the US Nuclear Posture Review (NPR) indicated a reduced reliance on nuclear weapons and narrowed the scope for their potential use compared to the previous posture review. The NPR declared that the United States would not use or threaten to use nuclear weapons against NNWS party to the NPT “in compliance with their nuclear non-proliferation obligations.” The document did not, however, clarify the criteria for establishing compliance and also reserved the right for the United States to “make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and US capacities to counter that threat.”<sup>89</sup>

In February 2011, the US Department of Defense (DOD) released a new National Military Strategy, which set out to “reduce the role and numbers of nuclear weapons, while maintaining a safe, secure, and effective strategic deterrent.” It also described the role of the nuclear arsenal as to “continue to support strategic stability through maintenance of an assured second-strike capability...retain sufficient nuclear force structure to hedge against unexpected geopolitical change, technological problems, and operational vulnerabilities.”<sup>90</sup> In January 2012, President Obama, with the Department of Defense, announced a new defense strategy entitled “Sustaining US Global Leadership: Priorities for 21st-Century Defense.” This strategy reaffirmed the existing nuclear posture, but also noted that US deterrence goals might be achieved with a smaller nuclear force, reducing both the number of nuclear weapons and their role in US national security strategy.<sup>91</sup>

On June 19, 2013, President Obama released new nuclear weapons employment guidance, which the White House said “takes further steps toward reducing the role of nuclear weapons” in the US

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<sup>86</sup> New START text, [www.state.gov/documents/organization/140035.pdf](http://www.state.gov/documents/organization/140035.pdf).

<sup>87</sup> “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated April 1, 2014.

<sup>88</sup> “Remarks by President Barack Obama in Prague as Delivered,” Office of the Press Secretary, The White House, April 5, 2009, [www.whitehouse.gov/video/The-President-in-Prague/#transcript](http://www.whitehouse.gov/video/The-President-in-Prague/#transcript).

<sup>89</sup> US Nuclear Posture Review Report, US Department of Defense, April 2010.

<sup>90</sup> *The National Military Strategy of the United States of America*, US Department of Defense, February 8, 2011, pp. 9, 21.

<sup>91</sup> *Sustaining U.S. Global Leadership: Priorities for 21<sup>st</sup> Century Defense*, US Department of Defense, January 3, 2012, p. 11.

national security strategy.<sup>92</sup> The guidance did not introduce a significant change in the nuclear doctrine but rather directed the DOD to bring US defense and military plans into accordance with the 2010 NPR. As such, the new guidance is “consistent with the fundamentals of deterrence that have long guided US nuclear weapons policy.”<sup>93</sup> The principles established by the guidance stop short of adopting a “sole purpose” doctrine,<sup>94</sup> but indicate that the United States would consider using nuclear weapons only “in extreme circumstances to defend the vital interests of the United States or its allies and partners.”<sup>95</sup> To allow for the reduction of nuclear weapons in security strategy, the guidance has directed the DOD to develop plans for “non-nuclear strike options.” Similarly, while the launch-on-warning posture remains in place, presidential guidance requested the Pentagon to review and reduce the role of launch-on-warning in contingency planning.<sup>96</sup>

The new guidance does not alter the structure of the US nuclear forces, retaining the triad of ICBMs, SLBMs, and heavy bombers. At the same time, on the basis of results of an interagency review, President Obama has concluded that the United States could reduce its deployed nuclear weapons by up to a third of the limits established in the New START. Rather than implementing such reductions unilaterally, the US President announced he would pursue “negotiated cuts with Russia.”<sup>97</sup>

In November 2010, the Obama administration committed to allocate more than \$85 billion over the next decade to the modernization of the US nuclear weapons infrastructure in order to maintain the reliability of its arsenal.<sup>98</sup> The US Congressional Budget Office has estimated that the total cost of implementing the US plans for nuclear forces maintenance and modernization in 2014-2023 would be \$355 billion.<sup>99</sup> However, most of the major expenditures on the modernization projects are scheduled for after 2020, and procurement is expected to peak between 2024 and 2029.<sup>100</sup> In a recent study, CNS experts therefore estimate that, without a revision of current plans, the United States would have to spend almost \$1 trillion on maintaining and modernizing its nuclear forces over the next thirty years.<sup>101</sup> Nuclear forces, for the most part, have been sheltered from spending cuts so far, but budget constraints may become increasingly salient in considerations and decision making on the nuclear arsenal in the near future.

The United States has ambitious nuclear modernization plans for its entire nuclear arsenal, including the development of a new SSBN, ICBM, bomber, cruise missile, and new interoperable nuclear

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<sup>92</sup> “Factsheet: Nuclear Weapons Employment Strategy of the United States,” Office of the Press Secretary, The White House, June 19, 2013, [www.whitehouse.gov/the-press-office/2013/06/19/fact-sheet-nuclear-weapons-employment-strategy-united-states](http://www.whitehouse.gov/the-press-office/2013/06/19/fact-sheet-nuclear-weapons-employment-strategy-united-states).

<sup>93</sup> “Report on Nuclear Employment Strategy of the United States,” US Department of Defense, June 12, 2013, p. 3, [www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy\\_Section491.pdf](http://www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy_Section491.pdf).

<sup>94</sup> Meaning that nuclear weapons would be used only in response to a nuclear attack.

<sup>95</sup> “Report on Nuclear Employment Strategy of the United States,” p. 7, [www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy\\_Section491.pdf](http://www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy_Section491.pdf).

<sup>96</sup> Ibid. and “Factsheet: Nuclear Weapons Employment Strategy of the United States.”

<sup>97</sup> “Factsheet: Nuclear Weapons Employment Strategy of the United States.”

<sup>98</sup> Fact Sheet: An Enduring Commitment to the US Nuclear Deterrent, Office of the Press Secretary, November 17, 2010, The White House website, [www.whitehouse.gov/the-press-office/2010/11/17/fact-sheet-enduring-commitment-us-nuclear-deterrent](http://www.whitehouse.gov/the-press-office/2010/11/17/fact-sheet-enduring-commitment-us-nuclear-deterrent).

<sup>99</sup> “Projected Costs of US Nuclear Forces, 2014 to 2023,” Congressional Budget Office, Congress of the United States, December 2013. He estimate includes project cost growth.

<sup>100</sup> Jon B. Wolfsthal, Jeffrey Lewis, and Marc Quint, “The Trillion Dollar Nuclear Triad,” James Martin Center for Nonproliferation Studies, Monterey, CA, January 2014, p. 11, [http://cns.miis.edu/trillion\\_dollar\\_nuclear\\_triad/](http://cns.miis.edu/trillion_dollar_nuclear_triad/).

<sup>101</sup> Ibid.

warheads, along with life-extension programs for a number of warheads and refurbishment of existing delivery systems.<sup>102</sup> The United States is modernizing and extending the life of its Minuteman III land-based ICBM as well as Trident II (D5) SLBM, which reportedly entails updating “virtually every component” of those missiles.<sup>103</sup> More long-term plans also include potential development of a new ICBM to replace the Minuteman III, and an Assessment of Alternatives in this regard is in progress.<sup>104</sup>

In December 2012, US government awarded a \$2 billion, five-year contract for design work on the Ohio-class replacement SSBN.<sup>105</sup> In October 2013, it was reported that the US Navy was “in the early stages” of design work and prototyping for the new SSBN.<sup>106</sup> The US Navy plans to procure 12 Ohio-replacement SSBNs, with the first to enter service in 2021.<sup>107</sup>

In December 2012, the US Air Force (USAF) announced its intent to award four contracts for studies in support of the Long-Range Standoff (LRSO) program, which envisions the development of a new long-range missile to replace the air-launched cruise missile currently deployed on strategic bombers.<sup>108</sup> The new missile would presumably carry a life-extended version of one or two of the existing warheads.<sup>109</sup> However, the awarding of LRSO contracts has been delayed twice due to budget limitations. Most recently, USAF announced in March 2014 that it had pushed the contract award to fiscal year 2018.<sup>110</sup> USAF is also modernizing the B-2 strategic bombers, which are projected to last until 2058, and conducting research and development of a new long-range strike bomber. The US reportedly plans to deploy the new bomber in mid-2020s.<sup>111</sup>

The United States has been planning to construct a new facility for the production of plutonium pits (nuclear warhead components), known as the Chemical and Metallurgy Research Replacement–Nuclear Facility (CMRR), to be located at the Los Alamos National Laboratory.<sup>112</sup> The start of

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<sup>102</sup> International Panel on Fissile Materials Report, 2011; Kristensen and Norris, “Nuclear Notebook: US Nuclear Forces, 2014.”

<sup>103</sup> Andrew Licherman, “United States,” in *Assuring Destruction Forever: Nuclear Weapon Modernization around the World*, Ray Acheson, ed., Reaching Critical Will, March 2012, p. 93.

<sup>104</sup> See Jon Wolfsthal, “The Myth of American Nuclear Obsolescence,” James Martin Center for Nonproliferation Studies, February 24, 2014, [www.nonproliferation.org/the-myth-of-american-nuclear-obsolescence/](http://www.nonproliferation.org/the-myth-of-american-nuclear-obsolescence/).

<sup>105</sup> Christopher P. Cavas, “Submarine Design Effort Gets a \$2bn Boost,” *DefenseNews*, December 21, 2012, [www.defensenews.com/article/20121221/DEFREG02/312210007/Submarine-Design-Effort-Gets-2B-Boost?odyssey=mod](http://www.defensenews.com/article/20121221/DEFREG02/312210007/Submarine-Design-Effort-Gets-2B-Boost?odyssey=mod).

<sup>106</sup> Kris Osborn, “Ohio Replacement Submarine Starts Early Construction,” Defensetech, October 23, 2014, <http://defensetech.org/2013/10/24/ohio-replacement-submarine-starts-early-construction/#ixzz2saOL6duC>.

<sup>107</sup> “Ronald O’Rourke, Navy Ohio Replacement (SSBN[X]) Ballistic Missile Submarine Program: Background and Issues for Congress,” Congressional Research Service, December 10, 2012, [www.fas.org/sgp/crs/weapons/R41129.pdf](http://www.fas.org/sgp/crs/weapons/R41129.pdf)

<sup>108</sup> The air-launched cruise missile has several modifications, including nuclear-capable. The planned Long-Range Standoff Weapon would presumably also have a nuclear-capable variant. “Rapid Fire Dec. 10, 2012: Long Range Standoff Weapon,” *Defense Industry Daily*, December 10, 2012, [www.defenseindustrydaily.com/Rapid-Fire-Dec-10-2012-07634/](http://www.defenseindustrydaily.com/Rapid-Fire-Dec-10-2012-07634/).

<sup>109</sup> Kristensen and Norris suggest this could be W80-1 or W84. Discussed in Hans M. Kristensen and Robert S. Norris, “US Nuclear Forces, 2013,” Nuclear Notebook, *Bulleting of the Atomic Scientists*, Vol. 62, No. 2 (March/April 2013), pp.77-86.

<sup>110</sup> Jon Hemmerdinger, “USAF Delays LRSO Again, This Time by Three Years,” Flightglobal.com, March 13, 2014, [www.flightglobal.com/news/articles/usaf-delays-lrso-again-this-time-by-three-years-396997/](http://www.flightglobal.com/news/articles/usaf-delays-lrso-again-this-time-by-three-years-396997/).

<sup>111</sup> Tom Z. Collina, “US Nuclear Modernization Programs,” Arms Control Association, January 2014, [www.armscontrol.org/factsheets/USNuclearModernization](http://www.armscontrol.org/factsheets/USNuclearModernization) and Aaron Mehta, “James: USAF Expects Long-Range Bomber RFP in Fall,” *Defense News*, February 26, 2014, [www.defensenews.com/article/20140226/DEFREG02/302260043/James-USAF-Expects-Long-Range-Bomber-RFP-Fall](http://www.defensenews.com/article/20140226/DEFREG02/302260043/James-USAF-Expects-Long-Range-Bomber-RFP-Fall).

<sup>112</sup> For a detailed study on the proposed facility, see “U.S. Nuclear Weapons Complex: Energy Department Plans to Waste Billions of Dollar on Unneeded Los Alamos Lab Facility,” January 18, 2012, [www.pogo.org/pogo-](http://www.pogo.org/pogo-)

construction, however, has been delayed several times, and plans will likely be abandoned due to financial considerations. As reported in February 2013, a study conducted by Los Alamos suggests that it would be more feasible to build several smaller new facilities and convert some of the existing ones rather than embark on the construction of CMRR that is projected to cost \$6 billion.<sup>113</sup>

The United States has maintained an official moratorium on nuclear testing since 1992 but has yet to ratify the CTBT. It also does not produce fissile material for nuclear weapons and other nuclear explosive devices and actively promotes the negotiation of a fissile material cut-off treaty (FMCT).

### ***Indicator 1.2. Policy and declaratory documents reflect commitment to achieving a world without nuclear weapons***

All the nuclear weapon states have in some way expressed their general support for the goal of nuclear disarmament, but also attach conditions to progress toward the goal. China officially supports the idea of negotiating—eventually—a nuclear weapons convention that would ban nuclear weapons altogether, while other NWS characterize it as unrealistic for the foreseeable future. NWS tend to emphasize instead the step-by-step approach, including entry-into-force of the CTBT and negotiation of an FMCT.

China's support for nuclear disarmament is not without caveats, as the state is currently reluctant to join the United States and Russia in arms control, arguing that its arsenal is too small in comparison. China's National Defense paper released in March 2011 states, "When conditions are appropriate, other nuclear weapon states should also join in multilateral negotiations on nuclear disarmament. To attain the ultimate goal of complete and thorough nuclear disarmament, the international community should develop, at an appropriate time, a viable, long-term plan with different phases, including the conclusion of a convention on the complete prohibition of nuclear weapons."<sup>114</sup>

France, having implemented some progressive measures in the past, has a cautious approach to nuclear disarmament, also emphasizing that "appropriate conditions" must be in place. French position appears to have further regressed since 2010. The 2013 *Livre Blanc* states that, as a nuclear-weapon state, France supports the goal of Article VI of the NPT to pursue "general and complete disarmament"—without mentioning nuclear disarmament or affording it any priority.<sup>115</sup> The official NPT webpage of the French government states that "it is vital to continue down the path of disarmament without limiting or stifling our discussion or our ambition" and that it is "important to avoid disassociating nuclear disarmament from collective security and the strategic context."<sup>116</sup> Since the 2010 NPT RevCon, French officials have been underscoring that the Action Plan is the "road

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[files/reports/nuclear-security-safety/energy-department-plans-to-waste-billions/nss-nwc-20120118-us-nuclear-weapons-complex.html](http://files/reports/nuclear-security-safety/energy-department-plans-to-waste-billions/nss-nwc-20120118-us-nuclear-weapons-complex.html).

<sup>113</sup> Elaine M. Grossman, "U.S. Nuclear Lab Ready to Shelve Costly Facility Plan," *Global Security Newswire*, February 22, 2013, [www.nti.org/gsn/article/us-nuclear-lab-ready-shelve-costly-facility-plan/](http://www.nti.org/gsn/article/us-nuclear-lab-ready-shelve-costly-facility-plan/).

<sup>114</sup> "China's National Defense in 2010," Section X: Arms Control and Disarmament, March 31, 2011, [www.china.org.cn/government/whitepaper/2011-03/31/content\\_22263885.htm](http://www.china.org.cn/government/whitepaper/2011-03/31/content_22263885.htm).

<sup>115</sup> 2013 *Livre Blanc*, p. 75.

<sup>116</sup> "A Concrete and Comprehensive Support for Disarmament," France NPT website, [www.francetnp2010.fr/spip.php?article77](http://www.francetnp2010.fr/spip.php?article77).

map,” suggesting that initiatives going beyond the 22 action items and/or undermining the step-by-step approach are a distraction.<sup>117</sup>

Russia’s position on nuclear disarmament has also regressed in recent years, with its unwillingness to negotiate follow-on steps to the New START and insistence that the focus should be on implementing the current treaty. In early 2012, ahead of his return to the presidency, Vladimir Putin published an article stating that, because of the threats Russia is facing, it “will under no circumstances surrender [its] strategic deterrent capability, and indeed, will in fact strengthen it.”<sup>118</sup> Similarly to other NWS, Russia refers to the 2010 Action Plan as a practical road map and has expressed concern about attempts to “circumvent” it or divert attention to other initiatives, including the focus on the humanitarian dimension of nuclear weapons.<sup>119</sup> At the 2013 session of the UN First Committee, the Russian representative referred to the promoters of the humanitarian initiative and supporters of a ban on nuclear weapons as “radical dreamers.” On April 4, 2014, the Russian Ministry of Foreign Affairs announced the disbanding of its Department for Security Affairs and Disarmament and its replacement with the Department for Nonproliferation and Arms Control. Explaining the change in its press release, the Russian MFA stated that disarmament in its “classical sense” is a thing of the past.<sup>120</sup>

The 2010 SDSR declares the United Kingdom’s commitment “to the long term goal of a world without nuclear weapons,” a commitment reiterated by UK representatives in different international fora.<sup>121</sup> At the same time, the UK government remains committed to maintaining its nuclear deterrent and replacing Trident. Speaking at the 2012 NPT Preparatory Committee meeting, a UK representative stated that “as long as large arsenals of nuclear weapons remain and the risk of nuclear proliferation continues … only a credible nuclear capability can provide the necessary ultimate guarantee to our national security.”<sup>122</sup> In April 2013, UK Prime Minister David Cameron published an op-ed headlined “We need a nuclear deterrent more than ever.” In it, he argued that the nuclear threat had increased since the end of the Cold War and that maintaining nuclear weapons was the most cost-effective way to ensure Britain’s security. Prime Minister Cameron expressed determination that UK’s nuclear arsenal would be maintained and renewed “for generations to come.”<sup>123</sup>

Speaking in Prague in April 2009, US President Obama stated “clearly and with conviction America’s commitment to seek the peace and security of a world without nuclear weapons.”<sup>124</sup> The 2010 NPR reiterated this vision, while also reaffirming that the United States would maintain a

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<sup>117</sup> See, for example, Statement by Ambassador Jean-Hugues Simon-Michel, Permanent Representative of France to the Conference on Disarmament, March 5, 2013, [http://reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March\\_France.pdf](http://reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March_France.pdf)

<sup>118</sup> Vladimir Putin, “Being Strong: National Security Guarantees for Russia,” Official Website of the Government of Russian Federation, February 20, 2012, <http://premier.gov.ru/eng/events/news/18185/>.

<sup>119</sup> See, for example, Statement by Ambassador Alexei Borodavkin, Permanent Representative of Russia to the Conference on Disarmament, March 5, 2013, [http://reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March\\_Russia.pdf](http://reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March_Russia.pdf).

<sup>120</sup> “Regarding a Structural Change in the Headquarters of the Russian Ministry of Foreign Affairs,” Press Release, Ministry of Foreign Affairs of Russian Federation, April 4, 2014, [http://mid.ru/brp\\_4.nsf/newsline/9AAB4F0A53803C2A44257CB0004EB2D9](http://mid.ru/brp_4.nsf/newsline/9AAB4F0A53803C2A44257CB0004EB2D9).

<sup>121</sup> SDSR 2010, paragraph 3.5.

<sup>122</sup> General Statement by Ambassador Jo Adamson, Head of the United Kingdom delegation, at the 2012 Preparatory Committee for the Nuclear Non-Proliferation Treaty, Vienna, April 30, 2012, [www.un.org/disarmament/WMD/Nuclear/NPT2015/PrepCom2012/statements/20120430/PM/United\\_Kingdom.pdf](http://www.un.org/disarmament/WMD/Nuclear/NPT2015/PrepCom2012/statements/20120430/PM/United_Kingdom.pdf)

<sup>123</sup> David Cameron, “We Need Nuclear Deterrent More than Ever,” *The Telegraph*, April 3, 2013, [www.telegraph.co.uk](http://www.telegraph.co.uk).

<sup>124</sup> “Remarks by President Barack Obama In Prague as Delivered.”

reliable arsenal for as long as nuclear weapons exist. Speaking in international fora, US representatives place activities such as conclusion and implementation of New START, support for the FMCT negotiations, and the NWS consultations on transparency and other issues in the context of steps towards nuclear disarmament.<sup>125</sup> Since 2010, however, the Prague vision seems to have been losing momentum. In his Berlin Speech in June 2013, President Obama stated that, “so long as nuclear weapons exist, we are not truly safe” and reiterated the need to pursue “the security of a world without nuclear weapons.”<sup>126</sup> In outlining future steps, he emphasized the negotiation of future nuclear cuts with Russia, even though he had concluded that the United States could safely reduce its arsenal by a third, and US-Russian arms control discussions were already at a standstill. Neither the 2013 nor the 2014 State of the Union addresses mentioned nuclear disarmament, and only the 2013 statement referenced bilateral reductions with Russia.<sup>127</sup>

None of the five NWS participated in the open-ended working group (OEWG) on taking forward multilateral nuclear disarmament negotiations, which convened in Geneva in 2013 (see Action 6). The five states did attend the High-Level Meeting on Nuclear Disarmament, held in September 2013 pursuant to the UN General Assembly resolution A/RES/67/39 (see Action 6 in the 2013 Monitoring Report). However, at the subsequent session of the UNGA First Committee, all NWS except China voted against the resolution on the follow-up to the high-level meeting.<sup>128</sup> Most NATO members and several other US allies also voted against the resolution. The resolution, among other things, calls for the urgent commencement of negotiations on a convention that would ban “possession, development, production, acquisition, testing, stockpiling, transfer and use or threat of use” of nuclear weapons.<sup>129</sup> The resolution further mandates the United Nations to convene a high-level conference on nuclear disarmament no later than 2018. In their explanation of vote at the First Committee, France, the United Kingdom, and the United States stated that the resolution did not reflect the views they had expressed at the High-Level Meeting in September 2013. They further argued that the resolution’s single reference to the NPT was insufficient, and the lack of specific reference to the 2010 Action Plan “puzzling.”<sup>130</sup> Explaining its vote, Russia also emphasized the Action Plan but, more importantly, it argued that the resolution promoted a “skewed” interpretation of Article VI of the NPT by referring only to nuclear disarmament and not general and complete disarmament.<sup>131</sup> As discussed earlier, the NWS also did not attend the humanitarian impact conferences in Oslo in 2013 and in Nayarit in 2014.

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<sup>125</sup> See, for example, the statement by Rose Gottemoeller, Acting Under Secretary of State, at the Conference on Disarmament, January 24, 2012.

<sup>126</sup> Remarks by President Obama at the Brandenburg Gate – Berlin, Germany, Office of the Press Secretary, The White House, June 19, 2013, [www.whitehouse.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany](http://www.whitehouse.gov/the-press-office/2013/06/19/remarks-president-obama-brandenburg-gate-berlin-germany).

<sup>127</sup> “Remarks by the President in the State of the Union Address,” The White House, February 12, 2013, [www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address](http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address).

<sup>128</sup> Voting record is available at [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/votes-ga/32.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/votes-ga/32.pdf).

<sup>129</sup> “Follow-up to the 2013 High-Level Meeting of the General Assembly on Nuclear Disarmament,” Resolution of the First Committee, 68th session of the UN General Assembly, October 29, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/resolutions/L6Rev1.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/resolutions/L6Rev1.pdf).

<sup>130</sup> Explanation of vote by H.E. Jean-Hug Simon-Michel on behalf of France, the United Kingdom, and the United States on the resolution “Follow-up to the 2013 High-Level Meeting of the General Assembly on Nuclear Disarmament,” New York, November 4, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/eov/L6\\_France-UK-US.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/eov/L6_France-UK-US.pdf).

<sup>131</sup> Explanation of vote on the resolution “Follow-up to the 2013 High-Level Meeting of the General Assembly on Nuclear Disarmament” (in Russian), Russian Federation, November 4, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/eov/L6\\_Russia.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/eov/L6_Russia.pdf).

Several states that participate in the Nuclear Security Summit (NSS) process have argued that the summits should address fissile material in military programs along with civilian holdings, as an estimated 85 percent of the world's fissile material is in defense programs.<sup>132</sup> The NWS, however, opposed this initiative and have also resisted attempts to include more disarmament language in the summits' communiqués. At the latest NSS that took place in The Hague in March 2014, Brazil delivered a statement on behalf of 15 countries, arguing that the existence of thousands of nuclear weapons poses immediate risk to humanity. It further stated that, "as long as nuclear disarmament remains unrealized, measures aimed at comprehensively securing nuclear materials and facilities will be tinged with an undeniable degree of precariousness."<sup>133</sup>

### **Action 2: All States parties commit to apply the principles of irreversibility, verifiability and transparency in relation to the implementation of their treaty obligations.**

While this action item refers to treaty obligations more broadly, the principles of irreversibility, verifiability, and transparency are usually meant to apply to NWS, and, in particular, their policies on disclosing information about their nuclear arsenals, allowing international verification of arms reductions, and ensuring reduction measures cannot be later reversed through the re-introduction of warheads and delivery systems into the active arsenal.

Irreversibility is demonstrated through the dismantlement of warheads and delivery vehicles (or, if possible, their conversion to conventional payloads), removal of fissile material from military stockpiles and its disposition, and the conversion of any fissile material production facility to the production of non-weapons-usable material or dismantlement of such a facility. The latter—conversion and dismantlement of facilities—is addressed in greater detail under Action 18.

***Indicator 2.1. Irreversibility: the dismantlement of warheads and material disposition are taking place, or plans to do so are announced during the reporting period; military fissile material production facilities are being decommissioned/dismantled, or plans to do so are announced***

#### **China**

No observable progress

The Chinese government does not release information on its nuclear arsenal, and it is therefore impossible to assess if China has conducted any warhead dismantlement and material disposition during the reporting period.<sup>134</sup>

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<sup>132</sup> "Most Nuclear Materials Are Outside International Mechanisms," NTI Nuclear Materials Security Index, December 17, 2013, <http://ntiindex.org/news-items/most-nuclear-materials-outside-international-mechanisms/>.

<sup>133</sup> "In Larger Security: A Comprehensive Approach to Nuclear Security," Joint Statement by Algeria, Argentina, Brazil, Chile, Egypt, Indonesia, Kazakhstan, Malaysia, Mexico, New Zealand, Philippines, Singapore, South Africa, Ukraine, and Vietnam, 2014 Nuclear Security Summit, The Hague, March 24, 2014,

[www.nss2014.com/sites/default/files/documents/final\\_joint\\_statement\\_in\\_larger\\_security\\_version\\_of\\_24\\_march\\_0.pdf](http://www.nss2014.com/sites/default/files/documents/final_joint_statement_in_larger_security_version_of_24_march_0.pdf)

<sup>134</sup> The only official information related to weapons production that CNS could locate concerns the decommissioning of China's first nuclear weapon production base, Plant 221 in the Qinghai province. In a presentation delivered at the IAEA it was reported that China decommissioned the facility in 1993 and conducted its complete environmental rehabilitation. See [www.qhnews.com/2009zt/system/2009/05/27/002746930.shtml](http://www.qhnews.com/2009zt/system/2009/05/27/002746930.shtml); [www.qhnews.com/2009zt/yzc/](http://www.qhnews.com/2009zt/yzc/); and [www.iaea.org/OurWork/ST/NE/NEFW/environet/meetings/TM\\_Guide\\_Stakeholder\\_Involvement/China.pdf](http://www.iaea.org/OurWork/ST/NE/NEFW/environet/meetings/TM_Guide_Stakeholder_Involvement/China.pdf)

Its facilities for producing fissile material for nuclear weapons are reported to have been decommissioned or to have shifted to producing material for the civilian nuclear industry.<sup>135</sup> A 2011 report from the International Panel on Fissile Materials (IPFM) lists three operational uranium enrichment facilities in China, all of them designated as civilian. See Action 18.

### France

Warhead dismantlement and material disposition—no observable progress

Facility dismantlement—completed prior to 2010

By the time of the 2010 NPT Review Conference, France had already decommissioned its weapons material production facilities.

France has made no declarations on warhead dismantlement during the reporting period.

France has not declared any fissile material in excess of military requirements and is not known to be implementing any material disposition programs.

### Russia

Limited progress

New START, while limiting the number of deployed warheads and delivery systems, does not require the dismantlement of warheads.

Russia is dismantling its retired warheads, but has not officially disclosed information on the rate of dismantlement during the reporting period or future plans in this regard. In their definitive accountings of global stockpiles, analysts Hans Kristensen and Robert Norris estimate that, as of March 2013, there were a total of 3,500 retired warheads in Russia awaiting dismantlement.<sup>136</sup> To arrive at this estimate, they assume that the rate of dismantlement is about 1,000 warheads a year, as it was during the 1990s. Other independent estimates have also suggested that the “net dismantlement rate in Russia is on the order of 200–300 warheads a year, with another 200 warheads being dismantled but then replaced with remanufactured warheads.”<sup>137</sup>

“Megatons to Megawatts,” the disposition program under which highly enriched uranium (HEU) taken out of Russian nuclear weapons was converted to low-enriched uranium (LEU) and sold to the United States, was completed in 2013. The program has converted a total of 500 metric tons of HEU.

The disposition of surplus plutonium under the Plutonium Disposition and Management Agreement (PDMA) with the United States is expected to start in 2018.

None of the currently operational facilities produce fissile material for weapons purposes. Russia had shut down all of its plutonium producing reactors by May 2010. The last reactor, ADE-2 in Zheleznogorsk, was shut down in April 2010.

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<sup>135</sup> “Global Fissile Material Report 2010,” International Panel on Fissile Materials.

<sup>136</sup> Kristensen and Norris, “Russian Nuclear Forces, 2012,” p. 90. Estimate as of March 2012.

<sup>137</sup> “Global Fissile Material Report 2011,” International Panel on Fissile Materials, p. 5.

## **United Kingdom**

### Limited progress

The United Kingdom is implementing a Stockpile Reduction Programme and disassembling Trident warheads at the AWE Burghfield facility.<sup>138</sup>

HEU declared in excess of military needs is reportedly being utilized for nuclear submarine fuel, but there is no official information on the rate of conversion and utilization. Disposition of surplus plutonium is not taking place yet, as the United Kingdom is considering options in this regard.<sup>139</sup>

A gaseous diffusion plant at Capenhurst that previously produced HEU for weapons was shut down in 1982 and subsequently decommissioned and demolished.<sup>140</sup> All of the facilities that produced plutonium for the UK nuclear weapons program have been shut down. See Action 18.

## **United States**

### Limited Progress

New START, while limiting the number of deployed warheads and delivery systems, does not require the dismantlement of warheads.

Warhead dismantlement is ongoing, although the United States has not released the number of warheads dismantled since 2009 (in its fact sheet released in 2010, the United States declared that it had dismantled 8,748 warheads between 1994 and 2009). The National Nuclear Security Administration (NNSA) Strategic Plan released in May 2011 included the commitment to complete the dismantlement of B53 bombs by 2012, and of all warheads retired prior to 2009 by 2022.<sup>141</sup> The dismantlement of warheads retired since 2009 will presumably commence after 2022 and is planned to be completed by 2038.<sup>142</sup>

In August 2010, then-US Secretary of Energy Steven Chu announced the complete dismantlement of all W62 warheads, retired from service in March 2010.<sup>143</sup> In October 2011, the United States announced the complete dismantlement of B53 bombs and “all components associated with W70 warheads,” which were retired in the 1990s.<sup>144</sup> The NNSA also noted that dismantlement was

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<sup>138</sup> Sue Ford to Robert Edwards, “Request for Information under the Freedom of Information (FOI) Act,” Ministry of Defence, July 25, 2013, <http://robedwards.typepad.com/files/mod-foi-response-on-dismantling-nuclear-weapons.pdf>.

<sup>139</sup> “Plutonium Strategy: Current Position Paper,” Nuclear Decommissioning Authority, February 2011, [www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf](http://www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf).

<sup>140</sup> The plant stopped producing HEU for weapons in 1962. “Global Fissile Material Report 2011,” p. 10; also, [http://fissilematerials.org/countries/united\\_kingdom.html](http://fissilematerials.org/countries/united_kingdom.html). The demolition of the plant was reported in February 2008, [www.wise-uranium.org/edeur.html](http://www.wise-uranium.org/edeur.html).

<sup>141</sup> *The National Nuclear Security Administration Strategic Plan*, National Nuclear Security Administration, May 2011, p 8.

<sup>142</sup> “US Nuclear Arsenal Plan Misguided,” Press Release, Union of Concerned Scientists, October 17, 2013, [www.ucsusa.org/news/press\\_release/us-nuclear-policy-misguided.html](http://www.ucsusa.org/news/press_release/us-nuclear-policy-misguided.html).

<sup>143</sup> “W62 Dismantlement Factsheet,” National Nuclear Security Administration, August 12, 2010, <http://nnsa.energy.gov/mediaroom/factsheets/w62dismantlement>.

<sup>144</sup> “NNSA Announces Dismantlement of Last B53 Nuclear Bomb”, National Nuclear Security Agency, 25 October 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/b53dismantle102511>; “NNSA, Y-12 Complete Dismantlement of W70 Components,” National Nuclear Security Administration, 21 October 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/w70dismantle102111>.

completed “years ahead of schedule” due to the use of new, more efficient and safe technology.<sup>145</sup> In December 2012, NNSA reported that since October 2011 it had dismantled “a number of B61 and B83-0/1 bombs and W76-0, W80-0, W84 and W78,” achieving 112 percent of its dismantlement goal for 2012.<sup>146</sup> Still, experts note that the current rate of dismantlement is significantly lower than the level achieved in the 1990s.<sup>147</sup> No further updates on warhead dismantlement were released during the reporting period. See Action 18 for dismantlement of facilities.

***Indicator 2.2. Verifiability: disarmament/arms control agreements contain verification provisions; such provisions are being implemented; the IAEA (and/or other relevant international organizations) is involved in the verification of said agreements/unilateral reduction measures***

**China**

**No**

No internationally verifiable nuclear weapons reductions are being implemented in China.

**France**

**No**

France is not party to any verifiable nuclear arms reductions agreements. No third party was involved in the verification of unilateral reductions implemented by France.

**Russia**

**Yes (partially)**

New START establishes an extensive bilateral verification regime, including data exchanges, inspections, and notifications. However, neither the IAEA nor any other third party is involved in the verification of New START.

**United Kingdom**

**No**

The United Kingdom is not party to any verifiable nuclear arms reductions agreements. Its unilateral arms reductions are also not subject to outside verification. However, the United Kingdom is cooperating with Norway in developing approaches to warhead dismantlement verification that would allow the participation of NNWS.

The United Kingdom is also cooperating with the United States on developing warhead dismantlement verification technology. The two countries have briefed other NWS on this work and also held a public briefing on the sidelines of the 2013 session of the UN First Committee.<sup>148</sup>

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<sup>145</sup> “NNSA, Y-12 Complete Dismantlement of W70 Components,” National Nuclear Security Administration, 21 October 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/w70dismantle102111>.

<sup>146</sup> “NNSA Exceeds 2012 Goal for Nuclear Weapons Dismantlement,” NNSA press release, December 3, 2012.

<sup>147</sup> “Global Fissile Material Report 2011,” p. 5.

<sup>148</sup> See “Fact Sheet: Nuclear Verification,” Office of Nonproliferation and International Security, NNSA, September 2011.

## **United States**

### **Yes (partially)**

As described above, New START establishes an extensive bilateral verification regime, but no third party is involved in the verification of the treaty.

Under the bilateral defense cooperation agreement, the United States is also cooperating with the United Kingdom on developing arms control verification technology.<sup>149</sup> The two countries concluded a warhead dismantlement verification exercise in early 2012.<sup>150</sup> (See Action 19.)

### ***Indicator 2.3. Transparency: information on arsenals and reductions is being reported to the international community/international organizations through official reports, press releases, and/or statements at international fora***

#### **China**

##### **No**

China does not officially disclose information on its arsenal.

#### **France**

##### **No change**

According to a working paper that France submitted to the 2010 NPT Review Conference, it had, by May 2010, reached the level of 300 warheads (or fewer) in its total arsenal, a target it announced in 2008. No further reductions were announced, and France does not disclose information on warhead dismantlement.

#### **Russia**

##### **No progress**

Russia does not release official data on the overall size of its arsenal, the number of non-strategic weapons, and the number of warheads awaiting dismantlement.

Through the data exchange under New START, Russia declares to the United States the number of its deployed missiles and bombers, as well as the total number of deployed and non-deployed launchers. Russia does not post this information in the public domain, however, and all the updates on aggregate numbers are currently available only from the US State Department. More detailed information on the structure of Russian nuclear forces is not available from any official sources.

#### **United Kingdom**

##### **Limited progress**

The United Kingdom announced its target reductions of both the overall and deployed warheads in the October 2010 Strategic Defence and Security Review. It has also declared the decision to reduce the maximum number of warheads carried on each of its submarines. Since that announcement, the only additional information provided was in response to a query from the House of Commons, where Defence Secretary Liam Fox stated in June 2011 that, “at least one of the Vanguard class

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<sup>149</sup> Ibid.

<sup>150</sup> Michele Smith, “U.S. and UK Conclude Warhead Monitored Dismantlement Exercise,” *Highlights*, Office of Nonproliferation and International Security newsletter, NNSA, Fall 2012, pp. 7-8.

ballistic missile submarines (SSBN) now carries a maximum of 40 nuclear warheads.” He provided no further specifics and added that “the Government does not comment upon the operational programme and therefore updates on this implementation programme will not be given.”<sup>151</sup>

### **United States**

#### **Limited progress**

Since May 2010, the United States has not officially released an update on its overall nuclear stockpile. However, as part of data exchange under New START, the United States makes public the reductions in the aggregate numbers of its deployed missiles and heavy bombers, and deployed and non-deployed launchers. The US State Department also periodically publishes a more detailed breakdown of US deployed and non-deployed ballistic missiles, launchers, and heavy bombers.<sup>152</sup>

On April 8, 2014, the US Department of Defense for the first time released information on projected strategic force structure for 2018, the year by which the New START reductions should be implemented.<sup>153</sup>

**Action 3: In implementing the unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals, the nuclear-weapon States commit to undertake further efforts to reduce and ultimately eliminate all types of nuclear weapons, deployed and non-deployed, including through unilateral, bilateral, regional and multilateral measures.**

***Indicator 3.1. Reductions in nuclear delivery systems and warheads (deployed and non-deployed) are made during the reporting period***

**China:** No information

**France:** No

**Russia:** Yes, see Action 4

**United Kingdom:** Yes

The United Kingdom announced the decision to reduce its overall arsenal to 180 warheads, with no more than 160 of them deployed. It has not, however, made public an update on how many warheads have been removed from deployment and retired since the release of the Strategic Defence and Security Review in October 2010. Independent reporting by the Nuclear Information Service

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<sup>151</sup> Written Ministerial Statements, Defence, Nuclear Deterrent, June 29, 2011: Column 51WS, [www.publications.parliament.uk/pa/cm201011/cmhänsrd/cm110629/wmstext/110629m0001.htm](http://www.publications.parliament.uk/pa/cm201011/cmhänsrd/cm110629/wmstext/110629m0001.htm).

<sup>152</sup> See, for example, “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Bureau of Arms Control, Verification, and Compliance, US Department of State, January 1, 2014, [www.state.gov/t/avc/rls/219222.htm](http://www.state.gov/t/avc/rls/219222.htm).

<sup>153</sup> “DOD Announces Strategic Force Structure,” News Release, US Department of Defense, April 8, 2014, [www.defense.gov/Releases/Release.aspx?ReleaseID=16627](http://www.defense.gov/Releases/Release.aspx?ReleaseID=16627).

suggests that the UK transfers about 3 warheads a year to the Atomic Weapons Establishment “for disassembly and removal from service.”<sup>154</sup>

### **United States: Yes**

For reductions in strategic delivery systems made under New START, see Action 4.

Since 2010, the United States has not officially released updated information on the size of its stockpile, but sources report that it had “reduced its nuclear weapons stockpile by nearly 500 warheads since 2009.”<sup>155</sup> Kristensen wrote in February 2013 that, according to information provided by the NNSA, the US arsenal as of early 2013 was an approximate 15 percent of the size of the US arsenal in 1967, which would place it at about 4,688 warheads, deployed and non-deployed. According to Kristensen, the reductions include the “retirement of warheads for the last non-strategic naval nuclear weapon, the nuclear Tomahawk land-attack cruise missile (TLAM/N).”<sup>156</sup>

### ***Indicator 3.2. Warheads are dismantled during the reporting period***

**China:** No information

**France:** No information

**Russia:** No information

Russia does not release any information on warhead dismantlement. However, Kristensen and Norris use historic rates of dismantlement—about 1,000 warheads per year in the 1990s—to estimate that between March 2011 and March 2013, the number of Russian warheads awaiting dismantlement dropped by approximately 2,000.<sup>157</sup>

### **United Kingdom: Yes**

Responding to a freedom of information request in July 2013, the UK Ministry of Defence reported that the AWE is implementing a Stockpile Reduction Programme and disassembling Trident warheads. Warheads are disassembled at the AWE Burghfield facility. Warheads awaiting dismantlement are stored either at AWE Burghfield or at the Royal Naval Armaments Depot Coulport.<sup>158</sup>

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<sup>154</sup> “Nukewatch: UK Warhead Reductions Continuing, According to Convoy Monitoring Data,” Nuclear Information Service, August 8, 2013, <http://nuclearinfo.org/article/government-transport/nukewatch-uk-warhead-reductions-continuing-according-convoy-monitoring>.

<sup>155</sup> Hans M. Kristensen, “(Still) Secret US Nuclear Stockpile Reduced,” FAS Strategic Security Blog, February 26, 2012, [www.fas.org/blog/ssp/2013/02/stockpiledreduction.php](http://www.fas.org/blog/ssp/2013/02/stockpiledreduction.php)

<sup>156</sup> Ibid.

<sup>157</sup> Correspondence with Hans M. Kristensen, April 2014.

<sup>158</sup> Sue Ford to Robert Edwards, “Request for Information under the Freedom of Information (FOI) Act,” Ministry of Defence, July 25, 2013, <http://robbedwards.typepad.com/files/mod-foi-response-on-dismantling-nuclear-weapons.pdf>.

### **United States: No new information**

As noted under Indicator 2.1, the United States continues the dismantlement of warheads retired from its arsenal. However, the NNSA has not released any updates on warhead dismantlement since March 2013.

### ***Indicator 3.3. National plans on nuclear weapons reductions and disarmament (apart from bilateral/multilateral agreements) are developed and/or adopted during the reporting period; such plans contain proposed timelines for reductions***

The United Kingdom is the only NWS that announced, during the reporting period, a unilateral nuclear reductions plan, pledging to reduce its overall arsenal to 180 warheads by mid-2020.

There was some speculation that US President Obama would announce a proposal for cuts in the US nuclear arsenal in his State of the Union address in February 2013 or in Berlin in June 2013, but he only mentioned the intent to pursue further bilateral reductions with Russia (see Action 1).

### ***Indicator 3.4. Bilateral and/or multilateral agreements (if any) contain provisions on the elimination/reduction of nuclear weapons, with target reductions and timelines***

Russia and the United States are the only NWS who have concluded a bilateral arms reduction agreement. New START entered into force in February 2011 and commits the two sides to reduce, by 2018, the number of their deployed warheads to no more than 1,550 and deployed strategic missiles and bombers to no more than 700 (see Action 4).

### **Action 4: The Russian Federation and the United States of America commit to seek the early entry into force and full implementation of the Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms and are encouraged to continue discussions on follow-on measures in order to achieve deeper reductions in their nuclear arsenals.**

#### ***Indicator 4.1. Relevant states ratify the treaty; New START enters into force***

##### **Completed**

The United States ratified New START on December 22, 2010.

The Russian Federation ratified the treaty on January 25, 2011.

New START entered into force on February 6, 2011.<sup>159</sup>

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<sup>159</sup> Mark Memmott, “Senate Ratifies New START,” NPR, December 22, 2010, [www.npr.org/blogs/thetwo-way/2010/12/22/132262684/senate-ratifies-start](http://www.npr.org/blogs/thetwo-way/2010/12/22/132262684/senate-ratifies-start); “Duma adopts bill on ratification of New START,” RT, January 25, 2011, <http://rt.com/politics/adopt-bill-new-start/>.

#### ***Indicator 4.2. New START is being implemented according to its provisions***

**Yes**

The two states have continued to implement the treaty according to its provisions. As of April 2014, Russia and the United States had conducted seven exchanges of data on the aggregate number of strategic arms subject to the treaty. The figures from data exchanges were made publicly available online by the US State Department. Under the terms of the treaty, data exchange takes place twice a year.

The Bilateral Consultative Commission (BCC), established under New START, met twice during the reporting period: on November 11-21, 2013, and on February 18-28, 2014. Overall, the Commission has met seven times since the treaty's entry-into-force.<sup>160</sup> The BCC discusses practical aspects of treaty implementation and has the authority to make limited technical changes in treaty implementation without altering substantive provisions.<sup>161</sup> Since February 2013, the Bilateral Consultative Commission concluded two new agreements, including an agreement to "exchange, in 2014, telemetric information on one launch of an ICBM or SLBM conducted by each Party" during 2013.<sup>162</sup>

The two countries started mutual inspections on April 13, 2011, and each side is allowed to conduct up to 18 on-site inspections each treaty year. In the treaty's third year (February 2013-February 2014), the United States and Russia each conducted 18 inspections, and since the start of treaty year four, each has conducted two inspections.<sup>163</sup>

Information on the aggregate numbers of strategic weapons released by the two sides indicate that, between March 2013 and March 2014, the United States reduced the number of deployed missiles and bombers by 14 (from 792 to 778). The number of deployed warheads associated with strategic delivery systems, according to New START counting rules, decreased by 69 (from 1654 to 1585). During the same period, Russia's deployed missiles and bombers increased by seven (from 492 to 499), and the number of deployed warheads, according to the counting rules, increased by 32 (from 1480 to 1512). Russia's total numbers of deployed strategic missiles and bombers remain below New START limits. The increase in the total number of deployed warheads and delivery systems during the reporting period, as pointed out by Hans Kristensen, "reflects fluctuations...at the time of the count" and does not necessarily indicate that Russia is increasing its strategic nuclear arsenal.<sup>164</sup> At the same time, Russia has room to "build up" to the New START limits, and it has been deploying more MIRVed missiles, replacing the older single-warhead systems.

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<sup>160</sup> Previous meetings took place on March 28-April 8, 2011, October 19-November 2, 2011, January 24-February 7, 2012, September 11-21, 2012, and February 16-19, 2013.

<sup>161</sup> See "Bilateral Consultative Commission (BCC)," Bureau of Arms Control, Verification and Compliance, US Department of State, [www.state.gov/t/avc/rls/145830.htm](http://www.state.gov/t/avc/rls/145830.htm).

<sup>162</sup> "Bilateral Consultative Commission: Decision on Number of Launches of ICBMs and SLBMs Conducted in 2013, on Which an Exchange of Telemetric Information Will Be Carried Out in 2014," Bureau of Arms Control, Verification and Compliance, US Department of State, February 28, 2014, [www.state.gov/documents/organization/223937.pdf](http://www.state.gov/documents/organization/223937.pdf). For the full list of agreements, see [www.state.gov/t/avc/newstart/c39917.htm](http://www.state.gov/t/avc/newstart/c39917.htm).

<sup>163</sup> "New START Treaty Inspection Activities," Bureau of Arms Control, Verification and Compliance, US Department of State, as of March 27, 2014, [www.state.gov/t/avc/newstart/c52405.htm](http://www.state.gov/t/avc/newstart/c52405.htm).

<sup>164</sup> Hans M. Kristensen, "New START Data Shows Russian Increase, U.S. Decrease of Deployed Warheads," FAS Strategic Security Blog, April 2014, <http://blogs.fas.org/security/2014/04/newstartdata-3/>.

**Aggregate numbers of strategic offensive arms, on the basis of data exchanges:<sup>165</sup>**

		As of 5 Feb 2011		As of 1 March 2012		As of 1 March 2013		As of 1 March 2014	
Category of Data	Treaty Limits	US	Russia	US	Russia	US	Russia	US	Russia
Deployed Missiles and Bombers	700	882	521	812	494	792	492	778	499
Deployed Warheads	1,550	1,800	1,537	1,737	1,492	1,654	1,480	1,585	1,512
Deployed and non-deployed launchers	800	1,124	865	1,040	881	1,028	900	1,028	906

***Indicator 4.3. Follow-on measures: meetings are held for discussions on a follow-on treaty/other follow-on measures to New START; negotiations on a follow-on treaty begin***

**No progress**

The US Senate, in its Resolution of Ratification on New START, stated that the United States should seek to initiate, within one year, “negotiations with the Russian Federation on an agreement to address the disparity between the non-strategic (tactical) nuclear weapons stockpiles of the Russian Federation and of the United States and to secure and reduce tactical nuclear weapons in a verifiable manner.”<sup>166</sup> President Obama announced to the Senate in March 2011 that he would attempt to commence such negotiations within a year of the ratification of New START (i.e. by February 2012). Speaking in Berlin in June 2013, Obama also announced that the United States could further reduce the number of its deployed strategic weapons and again indicated intent to “seek negotiated cuts with Russia” to that end.<sup>167</sup>

Russia, however, has been unwilling to engage in negotiations on either the tactical nuclear weapons or further cuts in strategic arsenals. Russian officials have stated that their focus is on implementing New START rather than planning next steps, and that it is too early to discuss non-strategic nuclear weapons.<sup>168</sup> In an interview in December 2013, Mikhail Ulyanov, Director of International Security and Disarmament Department of Russia’s Foreign Ministry, stated that it was “the worst time in 15 years for Russia to discuss further reductions in strategic nuclear weapons.”<sup>169</sup> Russia’s concerns

<sup>165</sup> “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated April 1, 2014; April 3, 2013; April 6, 2012,, and June 1, 2011.

<sup>166</sup> The full text of the Resolution of Ratification can be found on page S10982 of the Congressional Record from December 22, 2010, [www.congress.gov/cgi-lis/query/z?r111:S22DE0-0012](http://www.congress.gov/cgi-lis/query/z?r111:S22DE0-0012)

<sup>167</sup> Remarks by President Obama at the Brandenburg Gate—Berlin.

<sup>168</sup> See, for example, Russia’s statement at the UN First Committee, thematic debate, October 4, 2011, and, more recently, Russian Foreign Ministry’s response to media questions about possible new arms reduction talks, February 14, 2013, [www.mid.ru/BDOMP/brp\\_4.nsf/sps/6F885F75089A0DC644257B1200200CE](http://www.mid.ru/BDOMP/brp_4.nsf/sps/6F885F75089A0DC644257B1200200CE). On tactical nuclear weapons, see “Russia Says Too Early to Talk Tactical Nuclear Weapons with United States,” *RIA Novosti*, January 29, 2011, [http://en.rian.ru/mlitary\\_news/20110129/162362622.html](http://en.rian.ru/mlitary_news/20110129/162362622.html); and “Moscow Keeps Tactical Nuclear Weapons Cuts Issue Low-Key – Russian Senator,” *RIA Novosti*, March 30, 2011, <http://en.rian.ru/russia/20110430/163787812.html>

<sup>169</sup> “MFA: Most Unfavorable Time for Russia Now to Reduce Strategic Nuclear Weapons” (in Russian), *RIA Novosti*, December 25, 2013, [http://ria.ru/defense\\_safety/20131225/986400447.html#ixzz2xfhE0EkW](http://ria.ru/defense_safety/20131225/986400447.html#ixzz2xfhE0EkW)

about US ballistic missile defense plans in Europe remain a serious obstacle to further bilateral arms control talks. Russia had previously requested legally binding assurances that SM3-Block IIA and IIB interceptors initially planned for deployment in Poland and Romania in 2018 and 2021, would not target Russian ICBMs.<sup>170</sup> The United States responded that it was not in a position to give such assurances. The US decision in February 2013 to cancel the fourth (final) phase of the European Phased Adaptive Approach, which entailed the deployment of SM3-Block IIB interceptors in 2021, did not change Russia's position.<sup>171</sup>

Other factors Russian officials cite as obstacles to negotiations include the imbalance in conventional forces between Russia and NATO, as well as US unwillingness to discuss the issue of non-placement of weapons in outer space.<sup>172</sup>

**Action 5: The nuclear-weapon States commit to accelerate concrete progress on the steps leading to nuclear disarmament, contained in the Final Document of the 2000 Review Conference, in a way that promotes international stability, peace and undiminished and increased security. To that end, they are called upon to promptly engage with a view to, *inter alia*:**

- (a) Rapidly moving towards an overall reduction in the global stockpile of all types of nuclear weapons, as identified in action 3;
- (b) Address the question of all nuclear weapons regardless of their type or their location as an integral part of the general nuclear disarmament process;
- (c) To further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies;
- (d) Discuss policies that could prevent the use of nuclear weapons and eventually lead to their elimination, lessen the danger of nuclear war and contribute to the non-proliferation and disarmament of nuclear weapons;
- (e) Consider the legitimate interest of non-nuclear-weapon States in further reducing the operational status of nuclear weapons systems in ways that promote international stability and security;
- (f) Reduce the risk of accidental use of nuclear weapons; and
- (g) Further enhance transparency and increase mutual confidence.

The five NWS met in Geneva, Switzerland, in April 2013 to continue their consultations. Previous P5 Conferences took place in Washington, DC, in June 2012 and in Paris in June 2011. The first meeting, the London Conference on Transparency and Confidence Building Measures took place in 2009, before the 2010 Review Conference.

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<sup>170</sup> For a discussion, see Tom Z. Collina, "Some See Chances for Missile Defense Deal," *Arms Control Today*, January/February 2013, [www.armscontrol.org/act/2013\\_01-02/Some-See-Chance-for-Missile-Defense-Deal](http://www.armscontrol.org/act/2013_01-02/Some-See-Chance-for-Missile-Defense-Deal)

<sup>171</sup> Amaani Lyle, "Hagel: US Bolstering Missile Defense," American Forces Press Service, US Department of Defense, March 15, 2013, [www.defense.gov/news/newsarticle.aspx?id=119543](http://www.defense.gov/news/newsarticle.aspx?id=119543); Tom Z. Collina, "The European Phased Adaptive Approach at a Glance," Arms Control Association, February 2013, [www.armscontrol.org/factsheets/Phasedadaptiveapproach](http://www.armscontrol.org/factsheets/Phasedadaptiveapproach).

<sup>172</sup> "MFA: Most Unfavorable Time for Russia Now to Reduce Strategic Nuclear Weapons."

In their joint statement released after the consultations in Geneva, the NWS “reaffirmed their commitment to the shared goal of nuclear disarmament and general and complete disarmament.”<sup>173</sup> The phrasing seems to reflect the trend of France and Russia more often emphasizing the “general and complete” component of Article VI of the NPT, implicitly rejecting the priority traditionally afforded to nuclear disarmament.

The NWS continued to emphasize “the importance of working together in implementing the 2010 NPT Review Conference Action Plan.”<sup>174</sup> As in 2012, the discussions covered issues across the three pillars of the NPT, and not only disarmament. The NWS again highlighted their discussion of Article X and potential responses to a withdrawal from the NPT, and indicated an intent to “broaden consensus” on this issue among NPT parties at the 2014 PrepCom.

The disarmament part of consultations appears to have focused on transparency, confidence building, and verification, and the statement highlighted the ongoing work on the reporting form and the glossary of nuclear terms (see Indicator 5g.1). The NWS also reaffirmed their commitment to promote the entry-into-force of the CTBT and reiterated their support for commencement of the negotiations on a fissile material cut-off treaty at the CD.

In addition to the annual conferences, the NWS also hold consultations at the expert level in the inter-sessional period.<sup>175</sup> The 2014 P5 conference is taking place on April 14, 2014, in Beijing, China.

**(a) Rapidly moving towards an overall reduction in the global stockpile of all types of nuclear weapons, as identified in action 3;**

***Indicator 5a.1. Discussions/consultations among the NWS address nuclear weapons reductions and complete elimination of nuclear weapon***

**No visible progress**

While the five NWS continue their consultations, they are far from developing any joint action on “rapidly moving towards an overall reduction in the global stockpile.” To the extent that the NWS consultations have so far addressed nuclear weapons reductions, they seem to be focused on the experience of past and present US-Russian agreements, and questions of strategic stability. Disagreements persist over the necessary levels of transparency and next steps towards nuclear disarmament. The five NWS have agreed on a standard form for reporting on steps taken to implement the 2010 Action Plan and Article VI of the NPT, though the information to be provided will still differ from state to state. The NWS continue their verification discussions and the work on a common glossary of nuclear terms (see Indicator 5g.1).

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<sup>173</sup> Previous statements referred only to nuclear disarmament. “Fourth P5 Conference: On the Way to the 2015 NPT Review Conference,” Joint statement issued by China, Great Britain, France, Russia, and the United States, April 18-19, 2013, Geneva, [www.state.gov/r/pa/prs/ps/2013/04/207768.htm](http://www.state.gov/r/pa/prs/ps/2013/04/207768.htm).

<sup>174</sup> “Fourth P5 Conference: On the Way to the 2015 NPT Review Conference” and “Third P5 Conference: Implementing the NPT,” Joint statement by China, France, Great Britain, Russia, and the United States, June 29, 2012, [www.state.gov/r/pa/prs/ps/2012/06/194292.htm](http://www.state.gov/r/pa/prs/ps/2012/06/194292.htm)

<sup>175</sup> “Priorities for Arms Control Negotiations Post-New START,” Remarks by Rose Gottemoeller, Acting Under-Secretary of State for Arms Control and International Security, February 21, 2013, [www.state.gov/t/us/205051.htm](http://www.state.gov/t/us/205051.htm)

**(b) Address the question of all nuclear weapons regardless of their type or their location as an integral part of the general nuclear disarmament process;**

*Indicator 5b.1. Discussions/consultations among the NWS, particularly US-Russia, achieve progress on addressing such issues as reductions of non-strategic nuclear weapons and withdrawal of nuclear weapons stationed abroad, as well as addressing other classes of weapons*

**No progress**

It is not clear if the NWS consultations have specifically addressed the issue of Russian and US non-strategic weapons, as there is no reference to this in the joint statements. The formulation of Action 5b was influenced by the US and other states' concerns over the size of the Russian arsenal of non-strategic weapons, as well as Russia's objection to the deployment of US non-strategic nuclear weapons in Europe. No observable progress was achieved during the reporting period in addressing and resolving either issue.

The United States and Russia have not included limits on non-strategic nuclear weapons in their past arms control agreements, including the New START.<sup>176</sup> See Action 4 for discussion.

The United States continues to deploy non-strategic nuclear weapons in Europe as part of its NATO commitments. Experts estimate that there are 150-200 bombs deployed in Belgium, Germany, Italy, the Netherlands, and Turkey. Russia maintains a large arsenal of non-strategic nuclear weapons, with estimates ranging from 1,000 to 2,000 warheads, all in storage.<sup>177</sup>

In its 2010 Nuclear Posture Review, the United States stated that it would "retain the capability to forward-deploy non-strategic nuclear weapons in support of its Alliance commitments."<sup>178</sup> In his Berlin speech in June 2013, President Obama also pledges to work with NATO allies "to seek bold reductions in US and Russian tactical weapons in Europe."<sup>179</sup> The first NATO summit following the 2010 RevCon took place in November 2010 in Lisbon, Portugal. The new Strategic Concept adopted at the summit somewhat reduced the emphasis on US non-strategic nuclear weapons stationed in Europe, compared to the 1999 Strategic Concept.<sup>180</sup> Unlike the 1999 version, the 2010 Concept also explicitly mentions the prospect of further reductions of these weapons in the future.<sup>181</sup> NATO emphasizes, however, that "in any future reductions, our aim should be to seek Russian agreement to increase transparency on its nuclear weapons in Europe and relocate these

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<sup>176</sup> For a summary, see Amy F. Woolf, "Nonstrategic Nuclear Weapons, CRS Report RL32572, February 2, 2011, [www.fas.org/sgp/crs/nuke/RL32572.pdf](http://www.fas.org/sgp/crs/nuke/RL32572.pdf).

<sup>177</sup> Igor Sutyagin, "Atomic Accounting: A New Estimate of Russia's Non-Strategic Nuclear Forces," Occasional Paper, Royal United Services Institute, November 2012, [www.rusi.org/downloads/assets/1211\\_OP\\_Atomic\\_Accounting\\_Web\\_updated.pdf](http://www.rusi.org/downloads/assets/1211_OP_Atomic_Accounting_Web_updated.pdf) and Kristensen and Norris, "Russian Nuclear Forces, 2014."

<sup>178</sup> Nuclear Posture Review Report, U.S. Department of Defense, April 2010.

<sup>179</sup> "Remarks by President Obama at the Brandenburg Gate – Berlin."

<sup>180</sup> "Active Engagement, Modern Defence," Strategic Concept, North Atlantic Treaty Organization, November 19, 2010, [www.nato.int/cps/en/natolive/official\\_texts\\_68580.htm](http://www.nato.int/cps/en/natolive/official_texts_68580.htm). For analysis, see Robert S. Norris and Hans M. Kristensen, "US Tactical Nuclear Weapons in Europe, 2011," *Bulletin of the Atomic Scientists*, Vol. 67, no. 1 (January 2011), <http://bos.sagepub.com/content/67/1/64.full.pdf+html>.

<sup>181</sup> "Active Engagement, Modern Defence," Paragraph 26.

weapons away from the territory of NATO members.”<sup>182</sup> Views on the withdrawal of US weapons differ among European members of NATO, with states such as Belgium, Germany, and Norway supporting the removal of non-strategic nuclear weapons from Europe.<sup>183</sup> The more recent NATO members from the former Soviet bloc, on the other hand, want the weapons to remain in Europe as a guarantee of US protection against Russia. In light of recent and ongoing events in Ukraine, with Russia annexing Crimea and supporting the unrest in Eastern Ukraine, the former socialist countries are likely to harden their stance on the US non-strategic weapons in Europe.

The Deterrence and Defence Posture Review (DDPR), mandated by the Lisbon Summit and approved at the summit in Chicago in May 2012, did not change the alliance’s position on nuclear deterrence and non-strategic nuclear weapons, although it did signal an intent to consider options on reducing reliance on them.<sup>184</sup> NATO members have subsequently discussed nuclear policies and engagement with Russia, but it appears that internal differences on tactical nuclear weapons have not been resolved (see Indicator 5g.2).<sup>185</sup>

**(c) To further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies;**

*Indicator 5c.1. The diminishing role of nuclear weapons is reflected through changes in doctrines, adoption of new doctrines and/or security concepts and policies; or, (intended) changes are communicated through high-level statements*

**China**

**No change during the reporting period**

China’s 2010 defense white paper reaffirmed the no-first-use policy and stated that China “adheres to a self-defensive nuclear strategy, and will never enter into a nuclear arms race with any other country.”<sup>186</sup> A new white paper released in 2013 raised concerns among some observers, as it did not directly mention the no-first-use policy. However, it indicated China’s readiness to launch a nuclear counterattack in response to a nuclear strike on itself.<sup>187</sup> At the 2013 NPT Preparatory Committee meeting, China reaffirmed the commitment to the no-first-use policy.<sup>188</sup>

**France**

**No change during the reporting period**

In its new defense white paper released in May 2013, France reaffirmed the role of nuclear weapons

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<sup>182</sup> Ibid.

<sup>183</sup> At the 2010 NPT Review Conference, Germany led the efforts to include in the final document a call on the United States and Russia to negotiate the reduction and elimination of non-strategic nuclear weapons. See William Potter et al, “The 2010 NPT Review Conference: Deconstructive Consensus,” June 17, 2010.

<sup>184</sup> Deterrence and Defence Posture Review, NATO, May 20, 2012.

<sup>185</sup> See also Elaine M. Grossman, “Seeking Kremlin Engagement, NATO Weighs Next Nuclear Posture Steps,” *National Journal*, September 13, 2012, [www.nationaljournal.com/nationalsecurity/seeking-kremlin-engagement-nato-weighs-next-nuclear-posture-steps-20120913](http://www.nationaljournal.com/nationalsecurity/seeking-kremlin-engagement-nato-weighs-next-nuclear-posture-steps-20120913).

<sup>186</sup> “China’s National Defense in 2010,” White Paper, [www.china.org.cn/government/whitepaper/node\\_7114675.htm](http://www.china.org.cn/government/whitepaper/node_7114675.htm).

<sup>187</sup> “The Diversified Employment of China’s Armed Forces,” White Paper, April 16, 2013, [www.china.org.cn/government/whitepaper/2013-04/16/content\\_28556880.htm](http://www.china.org.cn/government/whitepaper/2013-04/16/content_28556880.htm).

<sup>188</sup> Statement by Mr. Pang Sen, Head of the Chinese Delegation, at the General Debate of the Second Session of the Preparatory Committee for the 2015 NPT Review Conference, April 22, 2013, <http://papersmartv4.unmeetings.org/media/1269575/CHINA.pdf>.

as the guarantee of national security and sovereignty, repeating the language from its earlier white papers (see Action 1).

## Russia

### No change during the reporting period

No new nuclear posture documents were released by Russia between May 2010 and April 2014, indicating that its nuclear posture remained the same as outlined in the February 2010 military doctrine, which foresees a role for nuclear weapons in a potential large-scale or regional war. It stipulates that nuclear weapons might be used in response to a nuclear attack, an attack with other WMD, or “in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat.”<sup>189</sup> This has raised somewhat the threshold for employing nuclear weapons compared to the 2000 doctrine, but Russia does not have a no-first-use policy and does not unconditionally pledge not to use nuclear weapons against non-nuclear weapon states.<sup>190</sup>

## United Kingdom

### Limited progress

The United Kingdom continued to maintain the posture of minimum nuclear deterrence. The October 2010 SDSR stipulates that the United Kingdom would consider using nuclear weapons only “in extreme circumstances of self-defence, including the defence of NATO allies.”<sup>191</sup>

## United States

### Limited progress

The new nuclear weapons employment guidance, announced in June 2013, does not introduce significant changes in the US nuclear doctrine and is described as “consistent with the fundamentals of deterrence that have long guided US nuclear weapons policy.”<sup>192</sup> At the same time, it directs the DOD to work on reducing the role of nuclear weapons in military planning through the development of “non-nuclear strike options” and reduction of the role of launch-under-attack posture in contingency planning.<sup>193</sup> The guidance also preserves the structure of the US nuclear forces (the triad), but indicates that the United States can cut the deployed weapons by a third of the New START limits (see Action 1).

## *Indicator 5c.2. The role of nuclear weapons in military alliances: the NATO security concept de-emphasizes the role of nuclear weapons*

### No progress

Adopted in November 2010, NATO’s Strategic Concept maintains that, “The supreme guarantee of the security of the Allies is provided by the strategic nuclear forces of the Alliance, particularly those of the United States” and that “deterrence, based on an appropriate mix of nuclear and conventional

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<sup>189</sup> Russian Federation Presidential edict, “The Military Doctrine of the Russian Federation,” February 5, 2010.

<sup>190</sup> For analysis, please see Nikolai Sokov, “The New, 2010 Russian Military Doctrine: The Nuclear Angle,” James Martin Center for Nonproliferation Studies, February 5, 2010,

[http://cns.miis.edu/stories/100205\\_russian\\_nuclear\\_doctrine.htm](http://cns.miis.edu/stories/100205_russian_nuclear_doctrine.htm).

<sup>191</sup> “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,” October 2010, p. 37.

<sup>192</sup> “Report on Nuclear Employment Strategy of the United States.”

<sup>193</sup> Ibid. and “Factsheet: Nuclear Weapons Employment Strategy of the United States.”

capabilities, remains a core element of our overall strategy.”<sup>194</sup> At the same time, the document emphasizes that NATO has “dramatically reduced [...] our reliance on nuclear weapons in NATO strategy.” It is not clear how the latter statement is compatible with the nuclear deterrence being the “supreme guarantee” and a “core element” of NATO strategy. The Alliance’s endorsement of a vision of a nuclear weapon-free world appears less than solid, as the Security Concept “commits NATO to the goal of creating conditions for a world without nuclear weapons,” but in the context of continued commitment to nuclear weapons: “as long as there are nuclear weapons in the world, NATO will remain a nuclear Alliance.”<sup>195</sup>

According to the NATO Lisbon Summit Declaration, the NATO Council was tasked “to continue to review NATO’s overall posture in deterring and defending against the full range of threats to the Alliance...on the basis of deterrence and defence posture principles agreed in the Strategic Concept.”<sup>196</sup> As noted above, the May 2012 DDPR did not alter the role assigned to nuclear weapons in the Alliance’s doctrine. DDPR reiterated that, “nuclear weapons are a core component of NATO’s overall capabilities for deterrence and defense.”<sup>197</sup> At the same time, the review indicated that the Alliance was considering reductions in non-strategic nuclear weapons and was going to study options in this regard. There is still no consensus within NATO on the question of US nuclear weapons deployed in Europe, with some of the newer alliance members opposed to the withdrawal of those weapons. Russia’s annexation of Crimea and the continuing deterioration of relations between Russia and the West have further put into question the prospect of reducing the role of nuclear weapons in NATO’s security policy and withdrawing US weapons from Europe.

**(d) Discuss policies that could prevent the use of nuclear weapons and eventually lead to their elimination, lessen the danger of nuclear war and contribute to the non-proliferation and disarmament of nuclear weapons;**

The formulation of action 5(d) is very broad and leaves a lot of room for interpretation as to what qualifies as implementation of this action item. Policies the discussion of which would be of relevance here can include the reduction of the role of nuclear weapons, arms reductions, lowering the operational status of nuclear weapons, strategic dialogue and transparency measures, and others. These areas are already covered under other sub-points of Action 5 as well as some other action items. Here we would only note the engagement among the five NWS on advancing the negotiation of a fissile material cut-off treaty and implementation of the CTBT.

The United States has led the effort to convene a “contact group” of NWS, with a possible inclusion of other weapons possessors, on launching the FMCT negotiations.<sup>198</sup> Several “P5 plus” consultations have taken place on the margins of the CD and the UNGA First Committee meetings since August 2011.<sup>199</sup> The joint statements of the P5 conferences usually refer to their “efforts with

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<sup>194</sup> “Active Engagement, Modern Defence,” North Atlantic Treaty Organization, November 19, 2010, [www.nato.int/cps/en/natolive/official\\_texts\\_68580.htm](http://www.nato.int/cps/en/natolive/official_texts_68580.htm)

<sup>195</sup> Ibid., and “NATO’s Nuclear Forces,” North Atlantic Treaty Organization, updated 14 October 2011, [www.nato.int/cps/en/natolive/topics\\_50068.htm](http://www.nato.int/cps/en/natolive/topics_50068.htm)

<sup>196</sup> “Lisbon Summit Declaration,” North Atlantic Treaty Organization, 20 November 20, 2010, [www.nato.int/cps/en/natolive/official\\_texts\\_68828.htm](http://www.nato.int/cps/en/natolive/official_texts_68828.htm)

<sup>197</sup> Deterrence and Defence Posture Review, NATO Press Release, May 20, 2012, [www.nato.int/cps/en/natolive/official\\_texts\\_87597.htm?mode=pressrelease](http://www.nato.int/cps/en/natolive/official_texts_87597.htm?mode=pressrelease)

<sup>198</sup> A senior State Department official, remarks under Chatham House rules.

<sup>199</sup> Conversations with diplomats familiar with the process, fall 2011.

other relevant partners” in promoting FMCT negotiations, presumably meaning the “P5 plus” consultations.<sup>200</sup> The content of these discussions is not disclosed, but the group evidently has not been able to come up with solutions for the current deadlock at the CD.

In November 2011, the United Kingdom and Preparatory Commission for the Comprehensive Nuclear-Test-Ban Organization (CTBTO) organized a meeting in Edinburgh focused on enhancing the detection of underground nuclear testing, inviting experts from the five NWS.<sup>201</sup> Speaking ahead of the meeting, UK Minister of Counter-Proliferation Alistair Burt stated that the experts would “discuss technical methods of carrying out inspections to determine whether a nuclear weapon test explosion has taken place in violation of the Treaty.”<sup>202</sup> In March 2013, the United Kingdom hosted another P5 experts meeting in Vienna devoted to the CTBT verification regime.

- (e) Consider the legitimate interest of non-nuclear-weapon States in further reducing the operational status of nuclear weapons systems in ways that promote international stability and security;**
- (f) Reduce the risk of accidental use of nuclear weapons;**

These two sub-actions are grouped here because high alert levels and the risk of accidental use are linked. The formulation of item 5(e) appears very weak in that it does not call on NWS to implement policies on reducing the operational status, such as de-alerting, de-targeting, de-mating, or reducing the number of warheads associated with delivery systems, but merely to consider the interest of NNWS in such policies. Whether or not NWS actually consider this interest is hardly measurable. Linking 5(e) and 5(f), this report reviews the steps the NWS take to reduce the risk of accidental use, including through the reduction of operational status.

***Indicator 5ef.1. De-alerting and other issues concerning the operational status of nuclear weapons and the reduction of accidental use risks are discussed among the NWS; decisions/commitments are made in this regard***

**No action**

The Joint P5 statements released after the consultations in June 2011, June 2012, and April 2013 did not mention any discussions of operational status, de-alerting, and de-mating taking place within the framework of NWS consultations.

There have been no reported changes in alert postures of the five NWS during the reporting period. The new US nuclear weapons employment guidance, issued in 2013, does not remove or change the launch-on-warning posture but directs the Department of Defense to “examine and reduce the role of launch-under-attack in contingency planning.”<sup>203</sup>

As in previous years, at the UN General Assembly First Committee in November 2012, France, Russia, the United Kingdom, and the United States voted against the biennial resolution

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<sup>200</sup> See, for example, the Fourth P5 Conference joint statement, [www.state.gov/r/pa/prs/ps/2013/04/207768.htm](http://www.state.gov/r/pa/prs/ps/2013/04/207768.htm).

<sup>201</sup> “Nuclear Weapon States Discuss Nuclear Disarmament Obligations,” UK Foreign & Commonwealth Office, July 6, 2011, [www.fco.gov.uk/en/news/latest-news/?view=News&id=688959382](http://www.fco.gov.uk/en/news/latest-news/?view=News&id=688959382).

<sup>202</sup> Ibid.

<sup>203</sup> “Fact Sheet: Nuclear Weapons Employment Strategy of the United States.”

“Decreasing Operational Readiness of Nuclear Weapons Systems,” which called for further practical steps towards removing all nuclear weapons from high alert status.<sup>204</sup> In explaining their vote, France, the United Kingdom, and the United States argued that the operational readiness had been decreased sufficiently and current alert levels do not increase the risk of accidental use of nuclear weapons.<sup>205</sup>

Prior to the 2010 Review Conference, some NWS already had policies and agreements in place aimed at reducing the alert levels and operational status of their weapons.

### Existing policies

China’s doctrine stipulates that, “in peacetime the nuclear missile weapons of the Second Artillery Force are not aimed at any country.”<sup>206</sup> Analysts assess that China’s nuclear weapons are kept at a low level of alert, and normally “missiles and fuel appear to be stored separately from warheads.”<sup>207</sup>

China and Russia have agreed on a mutual no-first-use policy and do not target nuclear weapons at each other. They also exchange missile launch notifications.<sup>208</sup> Russia and the United States, too, have a non-targeting agreement. Currently, neither the US nor Russian strategic forces are aimed at any specific targets.<sup>209</sup>

At the same time, alert levels remain high, particularly in the United States and Russia. Russia’s-deployed ICBMs are maintained at launch-on-warning, meaning that they are ready to launch if it appears that another state has initiated a nuclear strike against Russia. A recent study by the UN Institute for Disarmament Research (UNIDIR) suggests that Russia’s readiness levels are uneven across different types of ICBMs, with a significantly higher portion of silo-based ICBMs being on high alert compared to road-mobile missiles.<sup>210</sup> Sea- and air-based nuclear weapons are at a lower level of readiness: gravity bombs are not continuously deployed on heavy bombers, and Russian SSBNs are not on continuous at-sea patrol.<sup>211</sup> In early 2012, Admiral Vladimir Vysotsky announced plans to resume continuous patrols by Russia’s SSBNs in June 2012, which, according to the UNIDIR study, “might increase the number of Russian SLBM warheads on alert.”<sup>212</sup> However,

<sup>204</sup> “Decreasing Operational Readiness of Nuclear Weapons Systems,” Draft Resolution tables by Chile, Malaysia, New Zealand, and Switzerland, A/C.1/67/L.28, October 23, 2012, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L28.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L28.pdf)

<sup>205</sup> Ambassador Joanne Adamson, Explanation of Vote on behalf of France, the United Kingdom, and the United States, UNGA First Committee, November 5, 2012, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L28\\_France-UK-US.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L28_France-UK-US.pdf)

<sup>206</sup> “China’s National Defense in 2008,” Defense White Paper, January 2009, [http://news.xinhuanet.com/english/2009-01/20/content\\_10688124.htm](http://news.xinhuanet.com/english/2009-01/20/content_10688124.htm)

<sup>207</sup> Mark Stokes, [http://project2049.net/documents/chinas\\_nuclear\\_warhead\\_storage\\_and\\_handling\\_system.pdf](http://project2049.net/documents/chinas_nuclear_warhead_storage_and_handling_system.pdf); Hui Zhang, “China’s Perspective on a Nuclear-Free World,” *The Washington Quarterly* (April 2010), [www.twq.com/10april/docs/10apr\\_Zhang.pdf](http://www.twq.com/10april/docs/10apr_Zhang.pdf); and [http://news.mod.gov.cn/forces/2011-05/29/content\\_4244145.htm](http://news.mod.gov.cn/forces/2011-05/29/content_4244145.htm)

<sup>208</sup> Please see [www.nti.org/media/pdfs/3b\\_1.pdf?\\_=1316627913](http://www.nti.org/media/pdfs/3b_1.pdf?_=1316627913) (in Chinese); Luke Champlin, “China, Russia Agree on Launch Notification,” November 2009, [www.armscontrol.org/act/2009\\_11/ChinaRussia](http://www.armscontrol.org/act/2009_11/ChinaRussia), and “China and Russia Sign Missile Notification Pact,” Sina, October 14, 2010, <http://english.sina.com/china/2009/1013/277312>

<sup>209</sup> John Hallam, “Nuclear Weapons Operational Readiness/Operating Status,” Reaching Critical Will, 2008, [www.reachingcriticalwill.org](http://www.reachingcriticalwill.org); “Clinton, Yeltsin Reaffirm Importance of Joint Cooperation,” Federation of American Scientists, 14 January 1994, [www.fas.org](http://www.fas.org); Dr Nikolai Sokov, interview, winter 2012.

<sup>210</sup> Hans M. Kristensen and Matthew McKinzie, *Reducing Alert Rates of Nuclear Weapons*, UNIDIR: New York and Geneva, 2012, UNIDIR/2012/6, pp. 5-6.

<sup>211</sup> Kristensen and Norris, “Russian Nuclear Forces, 2011,” p. 71.

<sup>212</sup> Kristensen and McKinzie, *Reducing Alert Rates of Nuclear Weapons*, p. 7.

experts doubt Russia's capacity to implement such plans, and there has been no subsequent reporting of the actual return to continuous patrol. Russia's non-strategic nuclear warheads are normally kept in central storage.

The 2010 Nuclear Posture Review stipulates the following alert posture for the US strategic forces: "heavy bombers off full-time alert, nearly all ICBMs on alert, and a significant number of SSBNs at sea at any given time."<sup>213</sup> According to the UNIDIR report, four to five US SSBNs are maintained on alert at all times and can launch their missiles "within 15 minutes of presidential authorization," while four to six patrolling SSBNs can be "brought to alert within a few days."<sup>214</sup> Almost all of the deployed ICBMs can be launched within five minutes of authorization. The alert levels are the same as under the previous posture, although President Obama had stated during his election campaign in 2008 that he would "work with Russia" to take ballistic missiles off of "hair-trigger alert."<sup>215</sup> Russian leaders have made no promises to this effect.

France and the United Kingdom each keep one SSBN at sea on deterrent patrol at all times. A UK submarine on patrol is usually at several days "notice to fire" and its missiles are de-targeted.<sup>216</sup> The Trident Alternatives Review, released in summer 2013, discussed the possibility of the United Kingdom abandoning the constant at-sea deterrent and reviewed a range of other options.<sup>217</sup> France has also de-targeted its nuclear weapons (in 1997) and, according to its working paper submitted to the 2010 Review Conference, has reduced "the alert status of the two nuclear components."<sup>218</sup> Its *Livre Blanc*, however, does not specify alert levels/posture.

#### ***Indicator 5f.1. NWS discussions/consultations address the risk of accidental use of nuclear weapons***

##### **No**

There were no specific announcements of such discussions having taken place at the P5 meetings since 2010. Andrea Berger and Malcolm Chalmers have written that in 2009, the United Kingdom proposed establishing a working group dealing with response to nuclear accidents, but Russia opposed having any joint exercises. China, wary of accident response issues, reportedly preferred to address prevention.<sup>219</sup>

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<sup>213</sup> Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. x.

<sup>214</sup> Kristensen and McKenzie, *Reducing Alert Rates of Nuclear Weapons*, p. 1.

<sup>215</sup> Discussed in Hans M. Kristensen, "US and Russian Nuclear Forces: Status and Trends in Light of the *Smaller and Safer* Article," Presentation at the United Nations, October 13, 2010, [www.fas.org/programs/ssp/nukes/publications1/Brief2010\\_SmallSafe.pdf](http://www.fas.org/programs/ssp/nukes/publications1/Brief2010_SmallSafe.pdf).

<sup>216</sup> SDR 1998, Supporting essay five, "Nuclear deterrent, arms control," Para 12; Kristensen and Norris, "British Nuclear Forces, 2011," and "Nuclear Subs Collide in Atlantic," BBC News, February 16, 2009, [http://news.bbc.co.uk/2/hi/uk\\_news/7892294.stm](http://news.bbc.co.uk/2/hi/uk_news/7892294.stm).

<sup>217</sup> "Trident Alternatives Review."

<sup>218</sup> "Nuclear disarmament: France's practical commitment," Working paper submitted by France to the 2010 NPT Review Conference, April 14, 2010, NPT/CONF.2010/WP.33.

<sup>219</sup> Berger and Chalmers, "Great Expectations: The P5 Process and the Nonproliferation Treaty," Whitehall Report 3-13, Royal United Services Institute, August 2013, pp. 26-27.

**(g) Further enhance transparency and increase mutual confidence.**

***Indicator 5g.1. Transparency and reporting are discussed in NWS consultations and decisions on measures are taken accordingly***

Limited progress

The NWS have discussed issues of transparency, confidence building, and verification at all of their conferences to date.

Upon the invitation of the United Kingdom, on April 4, 2012, the NWS held a confidential expert-level meeting on lessons learned from the UK-Norway Initiative.<sup>220</sup> It was the first meeting of all NWS focused specifically on disarmament/warhead dismantlement verification. The P5 continued to share information on their respective verification experiences, including lessons learned from New START implementation and an overview of the US-UK joint verification work (see Action 19) at the subsequent conferences in Washington in 2012 and in Geneva in 2013.<sup>221</sup> As part of work to advance transparency, the United States has also briefed the other NWS on its activities at the Nevada National Security Site and provided a tour of the Nuclear Risk Reduction Center.

During the meeting in Paris in 2011, the five NWS also agreed to continue to work on a glossary of key nuclear terms and established a “dedicated working group” on terminology.<sup>222</sup> The group, chaired by China, had two experts meetings in September 2012 and September 2013. It is reportedly considering 200-300 terms (narrowed down from over 2,000) on nuclear disarmament, arms control, nonproliferation, and peaceful uses.<sup>223</sup> The NWS plan to present a draft of the glossary at the 2015 NPT Review Conference.

The work on developing a standard form for reporting on the implementation of nuclear disarmament obligations under Article VI and the 2010 Action Plan has been led by France. By early 2014, the NWS agreed on a standard reporting form and will present their reports at the 2014 PrepCom (see Action 21).

***Indicator 5g.2. Strategic dialogue is taking place among/between the NWS***

The United States, United Kingdom, and France are allies within NATO and engage in ongoing strategic dialogue in that context. This indicator thus primarily pertains to their dialogue(s) with

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<sup>220</sup>“UK Norway Workshop: Questions Answered,” United Kingdom-Norway Initiative, <https://registration.livegroup.co.uk/ukniworkshop/FAQ/#faq10>.

<sup>221</sup> “Third P5 Conference: Implementing the NPT,” Joint statement issued by China, France, Great Britain, Russia, and the United States, June 29, 2012, Washington, DC, [www.state.gov/r/pa/prs/ps/2012/06/194292.htm](http://www.state.gov/r/pa/prs/ps/2012/06/194292.htm) and “Fourth P5 Conference: On the Way to the 2015 NPT Review Conference,” Joint Statement issued by China, France, Great Britain, and the United States, April 19, 2013, Geneva, Switzerland, [www.state.gov/r/pa/prs/ps/2013/04/207768.htm](http://www.state.gov/r/pa/prs/ps/2013/04/207768.htm).

<sup>222</sup> Please see “First P5 Follow-up Meeting to the NPT Review Conference (Paris, June 30<sup>th</sup> – July 1<sup>st</sup>, 2011),” Statement by the Spokesperson of the Ministry of Foreign and European Affairs, France TNP website, [www.franceonu.org/spip.php?article5660](http://www.franceonu.org/spip.php?article5660); also, “The State Department’s Role in NATO Deterrence and Defense Posture Review (DDPR) and Future Arms Control,” Testimony by Ellen Tauscher, Under Secretary for Arms Control and International Security, November 2, 2011, [www.state.gov/t/us/176669.htm](http://www.state.gov/t/us/176669.htm).

<sup>223</sup> Berger and Chalmers, “Great Expectations,” p. 23, and remarks by an official involved in the P5 consultations, made under the Chatham House rule, December 2013.

China and Russia, as well as the China-Russia dialogue. None of the ongoing dialogues discussed below have achieved any significant progress in relation to arms control and disarmament during the reporting period.

### **China-United States:**

Unlike the US-Russian case, China and the United States do not have a decades-long history of bilateral arms control and common understandings and mechanisms that develop with it. Nonetheless, US-China military contact has been taking place since the 1980s, although at varying time intervals and levels of seniority, depending on external events.<sup>224</sup> According to US accounts, China has often resisted discussing nuclear weapon stockpiles and postures as part of these exchanges.<sup>225</sup> In 1998, the two countries agreed “not to target at each other the strategic nuclear weapons under their respective control,” and subsequently reaffirmed this commitment in 2009.<sup>226</sup>

One of the key disagreements between the two sides has for years been centered on China’s declared policy of no-first-use of nuclear weapons and the US refusal to acknowledge it as a credible posture, suggesting China would abandon this policy in time of conflict. China, for its part, refuses to provide greater levels of transparency concerning its nuclear arsenal, as arguing that doing so would increase its vulnerability to a first strike.<sup>227</sup> Along with Russia, China is also critical of the development of US ballistic missile defense, fearing it would undermine China’s minimum deterrent. China’s nuclear modernization programs are another cause of concern for the United States. So far, strategic dialogue between the two countries has not led to settlement of these disagreements.

The US-China Strategic and Economic Dialogue was established in 2009. In 2011, the sides introduced a component called the Strategic Security Dialogue to “build more understanding on issues in the bilateral relationship that have the potential for miscalculation and accident.”<sup>228</sup>

The fourth round of the US-China Strategic and Economic Dialogue took place in July 2013 in Washington, DC. Within the dialogue’s Strategic Track, China and the United States agreed on over 90 outcomes, including the decision to strengthen high-level exchanges and continue the security dialogue, which since 2012 had addressed “strategic security, multilateral arms control and regional issues.” As part of the Strategic Security Dialogue discussions, the two sides reportedly “had a constructive, in-depth and candid exchange of views on a range of security issues of strategic importance to both countries.” They further agreed to continue the strategic dialogue and “to establish a stable and cooperative strategic security relationship.”<sup>229</sup> The United States and China also agreed to establish a hotline between special representatives of the two presidents. The joint

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<sup>224</sup> For a general account of these exchanges, see Shirley A. Kan, “U.S.-China Military Contacts: Issues for Congress,” CRS Report RL32496 (updated), November 20, 2013, [www.fas.org/sgp/crs/natsec/RL32496.pdf](http://www.fas.org/sgp/crs/natsec/RL32496.pdf).

<sup>225</sup> Ibid.

<sup>226</sup> US-China Joint Statement, office of the Press Secretary, The White House, November 17, 2009, [www.whitehouse.gov/the-press-office/us-china-joint-statement](http://www.whitehouse.gov/the-press-office/us-china-joint-statement)

<sup>227</sup> For a discussion of US-China strategic dialogue and its deadlock, see Stephanie Spies, “China’s Nuclear Policy: (No First Use?” Center for Strategic and International Studies, October 20, 2011, <http://csis.org/blog/chinas-nuclear-policy-no-first-use>, and Gregory Kulacki, “Chickens Talking with Ducks: The US-Chinese Nuclear Dialogue,” *Arms Control Today*, October 2011, [www.armscontrol.org/act/2011\\_10/U.S.\\_Chinese\\_Nuclear\\_Dialogue](http://www.armscontrol.org/act/2011_10/U.S._Chinese_Nuclear_Dialogue)

<sup>228</sup> Charles Freeman and Bonnie S. Glaser, “The U.S.-China Strategic and Economic Dialogue,” CSIS, May 9, 2011, <http://csis.org/publication/us-china-strategic-and-economic-dialogue-0>; and Kan, “US-China Military Contacts: Issues for Congress.”

<sup>229</sup> “US-China Strategic and Economic Dialogue: Outcomes of the Strategic Track,” Media note, Office of the Spokesperson, US Department of State, July 12, 2013, [www.state.gov/r/pa/prs/ps/2013/07/211861.htm](http://www.state.gov/r/pa/prs/ps/2013/07/211861.htm).

statement on the outcomes, however, made no specific reference to the most controversial issues, such as positions on ballistic missile defense and transparency in nuclear arsenals.

China and the United States also engage in annual bilateral Defense Consultative Talks. The latest—the fourteenth—meeting took place in September 2013 in Beijing. Information on the content of discussions remains scarce, but, according to the readout released by the US Department of Defense, the two sides “discussed how to enhance strategic trust” and “ways to enhance communications to improve understanding and avoid misperception.” They further agreed to continue discussions and “sustain dialogue in key strategic areas including nuclear, missile defense, space, and cyber.”<sup>230</sup>

### **China-Russia:**

China and Russia view each other mostly favorably, and Dmitri Trenin notes that Russia’s policy of nuclear deterrence vis-à-vis China is implied rather than “articulated openly.”<sup>231</sup> China and Russia have held a number of strategic dialogue meetings over the years, but it is unclear to what extent they have discussed nuclear policy, disarmament, or other confidence-building measures related to nuclear weapons.<sup>232</sup> In 1994, the two countries agreed to a mutual no-first-use of nuclear weapons and no targeting of nuclear weapons at each other.<sup>233</sup> In 2009, they agreed to share missile launch notifications with each other.<sup>234</sup>

Military cooperation and high-level visits have continued during the reporting period, and China and Russia “have smoothly implemented the agreement on informing each other of ballistic missiles and space launch vehicles.”<sup>235</sup> In September 2010, the leaders of the two countries issued a joint statement in which they “reaffirmed the goal of establishing a nuclear-free world.”<sup>236</sup> In June 2012, during President Putin’s visit to China, the leaders reaffirmed their strategic partnership, confirmed they held similar views on various issues, and agreed to continue military and other forms of cooperation.<sup>237</sup> Similarly, during his visit to Russia in March 2013, the new Chinese President Xi Jinping reportedly affirmed that the two countries would “continue to strengthen and develop their military, political and strategic relations.”<sup>238</sup>

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<sup>230</sup> “Readout of the US-China Defense Consultative Talks,” US Department of Defense, September 10, 2013, [www.defense.gov/releases/release.aspx?releaseid=16250](http://www.defense.gov/releases/release.aspx?releaseid=16250).

<sup>231</sup> Dmitri Trenin, “True Partners? How Russia and China See Each Other,” Center for European Reform, February 2012, p. 13, [www.carnegieendowment.org/files/Trenin\\_CER\\_Eng.pdf](http://www.carnegieendowment.org/files/Trenin_CER_Eng.pdf).

<sup>232</sup> Sherman Garnett, “Challenges of the Sino-Russian Strategic Partnership,” *The Washington Quarterly* (Autumn 2011), [www.twq.com/01autumn/garnett.pdf](http://www.twq.com/01autumn/garnett.pdf).

<sup>233</sup> See [www.nti.org/media/pdfs/3b\\_1.pdf?\\_=1316627913](http://www.nti.org/media/pdfs/3b_1.pdf?_=1316627913) (in Chinese).

<sup>234</sup> Champlin, “China, Russia Agree on Launch Notification,” and “China and Russia Sign Missile Notification Pact,” Sina, October 14, 2010.

<sup>235</sup> “China to Promote Relations with Russia to New Stage,” Xinhua, June 4, 2011, [www.china.org.cn/world/2011-06/04/content\\_22715946.htm](http://www.china.org.cn/world/2011-06/04/content_22715946.htm).

<sup>236</sup> “China, Russia Pledge Stronger Co-op on Arms Control, Disarmament: Statement,” Xinhua, September 28, 2010, [http://news.xinhuanet.com/english2010/china/2010-09/28/c\\_13534059.htm](http://news.xinhuanet.com/english2010/china/2010-09/28/c_13534059.htm).

<sup>237</sup> “Путин обсудил с руководством КНР развитие стратегического партнерства” (“Putin Discussed with PRC Leadership the Development of Strategic Partnership”), *RIA Novosti*, June 6, 2012, <http://ria.ru/world/20120606/666609234.html>.

<sup>238</sup> “Chinese Leader Vows Stronger Military Ties with Russia,” *Ria Novosti*, March 24, 2013, [http://en.ria.ru/military\\_news/20130324/180213648/Chinese-Leader-Vows-Stronger-Military-Ties-With-Russia.html](http://en.ria.ru/military_news/20130324/180213648/Chinese-Leader-Vows-Stronger-Military-Ties-With-Russia.html).

Russia and China share particular concern regarding ballistic missile defense development by the United States and its allies. In the joint China-Russia statement, adopted during President Jinping's visit, the two states committed to enhance mutual understanding and cooperation on missile defense issues. They further agreed to call on other countries to "exercise caution on the question of missile defense deployment and further cooperation," and described it as unacceptable for one country to "unabatedly build up missile defense capabilities at the expense of strategic stability."<sup>239</sup>

China and Russia also hold regular bilateral strategic security consultations, the latest—the ninth—round of which took place in Moscow in August 2013. At the eighth round, in Beijing in January 2013, the two sides reportedly discussed coordinating their response to the US plans on developing missile defense in Asia Pacific.<sup>240</sup>

At the same time, Russia also appears to be concerned about China's modernization programs and expansion of nuclear arsenal. Russia argues that other nuclear-weapon states—China first of all—should join the next round of negotiations on nuclear arms reductions.

### **Russia-United States**

The United States and Russia have a long-standing strategic dialogue, had concluded several bilateral arms control agreements in the past, and are currently implementing a bilateral arms reduction treaty with an extensive verification regime. Through their respective national Nuclear Risk Reduction Centers, the two countries exchange numerous notifications, informing each other of strategic weapons movements and missile launches (flight tests).<sup>241</sup>

The Arms Control and International Security Working Group is part of the US-Russia Bilateral Presidential Commission launched in 2009. The Working Group's mandate is to "[address] 21st century challenges including enhancing stability and transparency, cooperating on missile defense, preventing the proliferation of weapons of mass destruction, and assessing common threats."<sup>242</sup> The group met several times in 2012-2013, but its deliberations were focused on extending the bilateral partnership in nonproliferation and nuclear security, and a new framework of cooperation was signed in June 2013.<sup>243</sup> At the same time, Russia and the United States have been unable to reach a compromise on either the missile defense or the non-strategic nuclear weapons. The US-Russian Bilateral Presidential Commission's 2013 report states that the group will continue to discuss strategic stability and "seek mutually acceptable solutions on missile defense."<sup>244</sup>

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<sup>239</sup> Joint Statement of the Russian Federation and People's Republic of China on Mutually Beneficial Cooperation and Deepening Comprehensive Partnership and Strategic Interactions, March 2, 2013, [http://news.kremlin.ru/ref\\_notes/1423](http://news.kremlin.ru/ref_notes/1423).

<sup>240</sup> Sergei Blagov, "Russia Seeks Stronger Security Ties with China," *Eurasia Daily Monitor*, Vol. 10, No. 14 (January 25, 2013), [www.janestown.org](http://www.janestown.org).

<sup>241</sup> In May 2012, the United States reported exchanging over 2,200 notifications exchanges with Russia since February 2011; no update is available since then "The New START Treaty Implementation," Bureau of Arms Control, Verification and Compliance, U.S. Department of State, May 15, 2012, [www.state.gov/t/avc/rls/189861.htm](http://www.state.gov/t/avc/rls/189861.htm).

<sup>242</sup> "The U.S.-Russia Arms Control and International Security Working Group," Office of the Spokesperson, U.S. Department of State, November 30, 2011, [www.state.gov/r/pa/prs/ps/2011/11/177935.htm](http://www.state.gov/r/pa/prs/ps/2011/11/177935.htm).

<sup>243</sup> For more information, please see "A New Legal Framework for US-Russian Cooperation in Nuclear Nonproliferation and Security," Office of the Spokesperson, US Department of State, June 19, 2013, [www.state.gov/r/pa/prs/ps/2013/06/210913.htm](http://www.state.gov/r/pa/prs/ps/2013/06/210913.htm).

<sup>244</sup> 2013 US-Russian Bilateral Presidential Commission Joint Report, December 27, 2013, [www.state.gov/documents/organization/219326.pdf](http://www.state.gov/documents/organization/219326.pdf). Reporting period covers May 2012-December 2013.

In response to Russia's intervention in Ukraine in spring 2014, the United States suspended parts of the Bilateral Presidential Commission's work. Prospects for US-Russian dialogue on arms control in the near future appear dim.

## NATO-Russia

The two sides normally engage in dialogue through the NATO-Russia Council (NRC) established in 2002.<sup>245</sup> The Council serves as a framework for consultations and cooperation in a variety of areas, beyond the nuclear/WMD realm. It "usually meets monthly at the level of ambassadors and military representatives; twice yearly at the level of foreign and defense ministers and chiefs of staff; and occasionally at summit level."<sup>246</sup> As far as nuclear issues are concerned, the Council has not been successful in recent years in bridging the differences between NATO states and Russia on questions of missile defense, deployment of US nuclear weapons in Europe, reduction of Russia's non-strategic nuclear weapons, and implementation of the Conventional Forces in Europe treaty. NRC's work plan for 2014, adopted in December 2013, reportedly did not contain any nuclear weapons related topics.<sup>247</sup>

At an end-of-year press conference in 2012, Russian Deputy Defense Minister Anatoly Antonov noted that missile defense, to a large extent, defined the future of Russia's relations with both the United States and NATO.<sup>248</sup> The NATO Secretary-General's annual report for 2013 indicated that discussions on possible cooperation on missile defense "made little headway."<sup>249</sup> In a statement in January 2014, NATO's Deputy Secretary-General said that Russia had in fact suspended talks within the NRC "aimed at finding compromise solutions on missile defence."<sup>250</sup>

The dialogue on non-strategic nuclear weapons also did not progress during the reporting period. In February 2013, NATO established the Special Advisory and Consultative Arms Control, Disarmament and Non-Proliferation (ADN) Committee and tasked it with finding ways to advance such dialogue.<sup>251</sup> Throughout 2013, the new committee considered a package of confidence-building and transparency measures to be proposed for discussion at the NRC. It started off with "over a dozen" measures, which by fall 2013 were narrowed down to five and reportedly included "joint seminars, joint declarations on nuclear policy, information exchanges, joint visits at former deployment sites of tactical nuclear weapons, and cooperation to deal with the consequences of

<sup>245</sup> Please see "NATO's Relations with Russia," Official NATO website, [www.nato.int/cps/en/natolive/topics\\_50090.htm](http://www.nato.int/cps/en/natolive/topics_50090.htm)

<sup>246</sup> Please see "NATO-Russia Council," Official NATO website, [www.nato.int/cps/en/SID-93331D27-9292E54B/natolive/topics\\_50091.htm](http://www.nato.int/cps/en/SID-93331D27-9292E54B/natolive/topics_50091.htm).

<sup>247</sup> Oliver Meier and Simon Lunn, "Trapped: NATO, Russia, and the Problem of Tactical Nuclear Weapons," *Arms Control Today*, Vol. 44 (January/February 2014), [www.armscontrol.org/act/2014\\_01-02/Trapped-NATO-Russia-and-the-Problem-of-Tactical-Nuclear-Weapons](http://www.armscontrol.org/act/2014_01-02/Trapped-NATO-Russia-and-the-Problem-of-Tactical-Nuclear-Weapons).

<sup>248</sup> "Заместитель Министра обороны Российской Федерации рассказал об итогах работы военного ведомства в рамках международной деятельности в 2012 году и задачах на 2013 год" ("Deputy Defense Minister of the Russian Federation Anatoly Antonov Discussed Ministry's Work in 2012 in the International Sphere and Goals for 2013"), Ministry of Defense of the Russian Federation, December 24, 2012, [http://stat.function.mil.ru/news\\_page/country/more.htm?id=11549434@egNews](http://stat.function.mil.ru/news_page/country/more.htm?id=11549434@egNews)

<sup>249</sup> "Future NATO: Towards the 2014 Summit," Secretary General's Annual Report 2013, NATO, January 27, 2014, [www.nato.int/cps/en/natolive/opinions\\_106247.htm](http://www.nato.int/cps/en/natolive/opinions_106247.htm).

<sup>250</sup> "The Future of Missile Defence: A NATO Perspective," Speech by NTO Deputy Secretary General Alexander Vershbow at the INSS Missile Defence Conference in Israel, January 15, 2014, [www.nato.int/cps/en/natolive/opinions\\_106142.htm?selectedLocale=en](http://www.nato.int/cps/en/natolive/opinions_106142.htm?selectedLocale=en).

<sup>251</sup> Oliver Meier, "NATO Agrees on New Arms Control Body," *Arms Control Now*, February 26, 2013, <http://armscontrolnow.org/2013/02/26/nato-agrees-on-new-arms-control-body/>.

nuclear accidents and incidents.”<sup>252</sup> In their recent review of the NATO-Russia debate on non-strategic nuclear weapons, Oliver Meier and Simon Lunn argue that some of the measures considered by the committee were repetitive of existing efforts while others proved too difficult and controversial for the NATO members themselves. The committee eventually approved two potential measures, including “unilateral and joint statements on nuclear policy and the possibility of a dialogue and reciprocal briefings on US and Russian tactical nuclear weapons in Europe.”<sup>253</sup> However, this decision was made after the NRC work plan for 2014 had already been adopted.<sup>254</sup>

In response to Russia’s intervention in Ukraine and annexation of Crimea on March 21, 2014, NATO has suspended all practical cooperation with Russia, both civilian and military.<sup>255</sup>

**Action 6: All States agree that the Conference on Disarmament should immediately establish a subsidiary body to deal with nuclear disarmament, within the context of an agreed, comprehensive and balanced program of work.**

***Indicator 6.1. A subsidiary body to deal with nuclear disarmament is established at the CD***

No

The Conference on Disarmament has not been able to adopt a program of work, as Pakistan reaffirmed its opposition to negotiating a fissile material treaty absent an assurance that it would cover existing stocks. In August 2013, the CD established an Informal Working Group (IWG) to develop a draft program of work and subsequently extended its mandate into 2014.

During the 2013 session, several CD presidents attempted to find a solution and circulated proposals on a draft program of work. None of the proposals garnered sufficient support to overcome the impasse. The first draft program of work considered during the 2013 session was prepared under the Hungarian presidency of the CD in February 2013.<sup>256</sup> It envisioned the establishment of three working groups—one to consider proposals on nuclear disarmament negotiations, including a fissile material treaty, one to discuss prevention of an arms race in outer space, and the third to discuss negative security assurances. It further provided for the appointment of three special coordinators to seek member states’ views on new types of WMD; comprehensive program of disarmament, and transparency in armaments.<sup>257</sup> As the independent advocacy project, Reaching Critical Will, reported, several states expressed concerns about the draft program, but were willing to join the consensus. Pakistan and Egypt, however, were not ready to support the proposal,

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<sup>252</sup> Meier and Lunn, “Trapped: NATO, Russia, and the Problem of Tactical Nuclear Weapons.”

<sup>253</sup> Ibid.

<sup>254</sup> NRC work plan for 2014 was approved on December 4, 2013, while the ADN committee reportedly endorsed potential cooperation measures on December 6, 2014. Meier and Lunn, “Trapped: NATO, Russia, and the Problem of Tactical Nuclear Weapons.”

<sup>255</sup> “Statement by NATO Foreign Ministers,” NATO-Russia Council website, April 1, 2014, [www.nato-russia-council.info/en/articles/20140327-announcement/](http://www.nato-russia-council.info/en/articles/20140327-announcement/).

<sup>256</sup> For discussion of the draft program of work proposed by Egypt in 2012, please see the 2012 Monitoring Report.

<sup>257</sup> Draft Decision on a Programme of Work for the 2013 Session, CD/1948, February 11, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1948.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1948.pdf)

with the latter finding it problematic that the working group on nuclear disarmament would prioritize the fissile material treaty.<sup>258</sup>

The second proposal on a program of work was made by Iran during its CD presidency in June 2013. The Iranian draft envisioned the establishment of four working groups to “develop proposals” on nuclear disarmament, negative security assurances, prevention of an arms race in outer space, and prohibition of fissile material production for nuclear weapons. It further provided for the appointment of three special coordinators to seek the CD members’ views on a comprehensive program of disarmament, transparency in armaments, and new types of WMD.<sup>259</sup> The draft did not give a negotiating mandate to any of the proposed working groups, and several states at the CD argued that the absence of such a mandate made the program of work meaningless.<sup>260</sup> The third draft program of work, presented by Iraq during its presidency in August 2013, repeated the proposals made in Iran’s draft but it introduced a reference to CD/1299, known as the Shannon Mandate, which sets the parameters for the negotiation of a treaty banning the production of fissile material for nuclear weapons.<sup>261</sup>

With no progress in sight, the delegates took up one of the proposals made by then-CD Secretary General Kassym-Jomart Tokaev and agreed to establish an Informal Working Group “with a mandate to produce a programme of work robust in substance and progressive over time in implementation.”<sup>262</sup> Even this decision was not a straightforward one, as the delegates disagreed on whether someone other than the CD president could chair the group and whether its mandate could be automatically extended into the next session. The IWG has met several times but has yet to produce any proposals on a program of work.

A much more dynamic debate was taking place in Geneva parallel to the 2013 CD session. Established pursuant to the UN resolution A/RES/67/56 (see Action 6 in the 2013 Monitoring Report), the Open-Ended Working Group on taking forward multilateral nuclear disarmament negotiations met for three sessions in May, June, and August 2013. Not constrained by the CD agenda and rules of procedure, the OEWG discussed a wide variety of topics related to nuclear disarmament and involved in its work states outside the CD, as well as civil society. Expert panels covered such issues as disarmament verification, nuclear-weapon-free zones, the roles and responsibilities of different actors in disarmament, perspectives on a necessary framework for achieving a world without nuclear weapons, and others. The unusual format stimulated truly interactive discussions, a rare occurrence in multilateral disarmament settings. OEWG participants exchanged views on the approaches to nuclear disarmament—“step-by-step” vs. “comprehensive”—and many agreed it was more appropriate to talk about elements (or building

<sup>258</sup> Beatrice Fihn, “While Nuclear Weapons Are Being Tested, the CD Continues to Fail,” Reaching Critical Will, February 12, 2013, [www.reachingcriticalwill.org/disarmament-fora/cd/2013/reports/7426-while-nuclear-weapons-are-being-tested-the-cd-continues-to-fail](http://www.reachingcriticalwill.org/disarmament-fora/cd/2013/reports/7426-while-nuclear-weapons-are-being-tested-the-cd-continues-to-fail)

<sup>259</sup> Draft Programme of Work for the 2013 Session of the Conference on Disarmament, CD/1952, June 21, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/Draft\\_21June\\_PoW.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/Draft_21June_PoW.pdf).

<sup>260</sup> See Anina Dalbert, “A Simplified Programme of Work,” CD Reports, Reaching Critical Will, June 18, 2013 and “No Action on CD/1952,” CD Reports, Reaching Critical Will, June 21, 2013, [www.reachingcriticalwill.org/disarmament-fora/cd/2013/reports?catid\[0\]=50](http://www.reachingcriticalwill.org/disarmament-fora/cd/2013/reports?catid[0]=50).

<sup>261</sup> Draft Programme of Work submitted during the Iraqi Presidency for the 2013 session of the Conference on Disarmament, CD/1955, August 14, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1955.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1955.pdf).

<sup>262</sup> Decision on the Establishment of an Informal Working Group, CD/1956/Rev.1, August 16, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1956.1.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1956.1.pdf).

blocks) of disarmament without insisting on a sequence of steps. The group's final report includes a summary of discussions and papers by the OEWG participants, but the group did not adopt any specific proposals for multilateral negotiations.<sup>263</sup>

None of the NWS took part in the OEWG deliberations. France, the United Kingdom, and the United States had previously stated that they saw "little value in this initiative," which they say undermines the existing machinery such as the CD and UN Disarmament Commission. They further expressed concern that the working group's discussions may "jeopardize the consensus" achieved at the 2010 NPT Review Conference, presumably because such discussions would not necessarily be guided by the Action Plan.<sup>264</sup> The NWS did not react directly to the OEWG report at the First Committee, but repeated their view that new initiatives are diverting attention from the "practical, step-by-step approach" as the only route to nuclear disarmament.<sup>265</sup>

Although for the most part, OEWG participants seemed to find the discussions useful, many states were not prepared to support the extension of the group's mandate. Some were wary of turning it into an established, "regular" UN institution that would succumb to the usual routine of prepared statements. Others believed that the group had accomplished what it was supposed to do: demonstrate that the non-nuclear-weapon states are interested in, and are capable of, engaging in a substantive discussion on nuclear disarmament.<sup>266</sup>

**Action 7: All States agree that the Conference on Disarmament should, within the context of an agreed, comprehensive and balanced program of work, immediately begin discussion of effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons, to discuss substantively, without limitation, with a view to elaborating recommendations dealing with all aspects of this issue, not excluding an internationally legally binding instrument. The Review Conference invites the Secretary-General of the United Nations to convene a high-level meeting in September 2010 in support of the work of the Conference on Disarmament.**

***Indicator 7.1. Discussions of an effective international arrangement to assure non-nuclear weapons states against the use or threat of use of nuclear weapons begin in the CD within an agreed program of work***

No progress

<sup>263</sup> The report is available at [www.reachingcriticalwill.org/images/documents/Disarmament-fora/OEWG/Documents/finalreport.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/OEWG/Documents/finalreport.pdf).

<sup>264</sup> Explanation of vote on behalf of France, the United Kingdom and the United States, November 6, 2012, available on Reaching Critical Will website, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L46\\_France-UK-US.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L46_France-UK-US.pdf)

<sup>265</sup> See, for example, US statement in the Thematic Discussion on Nuclear Weapons, October 18, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/18Oct\\_US.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/18Oct_US.pdf) and Russia's statement at the General Debate (in Russian), October 18, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/8Oct\\_Russia.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/8Oct_Russia.pdf).

<sup>266</sup> Discussions with diplomats on the sidelines of the 2013 session of the UN Frist Committee, October 2013.

Four of the five NWS continue to oppose the idea of a multilateral, legally-binding instrument on negative security assurances, and the CD members have otherwise been unable to break the deadlock over the negotiations of a fissile material treaty and adopt a program of work.

### ***Indicator 7.2. UN Secretary-General convenes a high-level meeting in Sept 2010***

**Yes**

The High-Level Meeting on Revitalizing the Work of the Conference on Disarmament and Taking Forward Multilateral Disarmament Negotiations was convened by the UN Secretary-General on September 24, 2010.<sup>267</sup> 68 delegates spoke at the meeting, recognizing both recent successes in disarmament and the lack of concrete progress in the CD.<sup>268</sup> No actionable decisions were adopted. As a follow-up, another meeting took place in New York at the United Nations on July 27-29, 2011 (see 2012 Monitoring Report).<sup>269</sup>

### **Action 8: All nuclear-weapon States commit to fully respect their existing commitments with regard to security assurances. Those nuclear-weapon States that have not yet done so are encouraged to extend security assurances to non-nuclear-weapon States parties to the Treaty.**

Most of the NWS released their updated doctrines, postures, and white papers prior to the 2010 NPT Review Conference. No change in the NWS policies on negative security assurances was observed in 2013-14.

In 1995, ahead of the NPT Review and Extension Conference, the five NWS each issued a unilateral statement concerning their security assurance policy. The statements were accordingly recognized in the UN Security Council Resolution 984 (1995). France, Russia, the United Kingdom, and the United States each declared that they would not use nuclear weapons against NNWS party to the NPT except in cases of invasion or attack on their respective territories, armed forces, and allies by an NNWS in alliance or association with a nuclear weapon state.<sup>270</sup> China's unilateral statement contained a much broader, unconditional guarantee, as the country undertook not to use or threaten to use nuclear weapons against non-nuclear weapon states "at any time or under any circumstances." The guarantees are extended to nuclear weapon-free zones, NNWS party to the NPT, and other non-nuclear weapon states "that have entered into any comparable internationally binding commitment not to manufacture or acquire nuclear explosive devices."<sup>271</sup>

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<sup>267</sup>"High-level Meeting on Revitalizing the Work of the Conference on Disarmament and Taking Forward Multilateral Disarmament Negotiations convened by the Secretary-General," Meetings of the 65<sup>th</sup> Session of the General Assembly of the United Nations, [www.un.org/en/ga/65/meetings/disarmament.shtml](http://www.un.org/en/ga/65/meetings/disarmament.shtml)

<sup>268</sup>"Annex to the Letter dated 5 October 2010 from the Secretary-General Addressed to the President of the General Assembly," United Nations General Assembly A/65/496, October 14, 2010, [www.un.org/ga/search/view\\_doc.asp?symbol=A/65/496](http://www.un.org/ga/search/view_doc.asp?symbol=A/65/496)

<sup>269</sup>"Revitalizing the Work of the Conference on Disarmament and Taking Forward Multilateral Disarmament Negotiations," United Nations General Assembly 65<sup>th</sup> Session Plenary Meeting, 27-29 July 2011, [www.un.org/disarmament/content/news/ga65-113/](http://www.un.org/disarmament/content/news/ga65-113/)

<sup>270</sup> Unilateral declarations contained in UN documents S/1995/261, S/1995/262, S/1995/263, and S/1995/264.

<sup>271</sup> "Statement on Security Assurances Issued on 5 April 1995 by the People's Republic of China," contained in the UN document S/1995/265.

Negative security assurances provided by the NWS under the protocols to the nuclear weapon-free zones are discussed under Action 9.

***Indicator 8.1. States maintain security assurance policies at least at the same level as before May 2010; existing security assurances are reiterated***

**China**

**No change**

In its 2010 National Defense White Paper, China reiterated that it had “made the unequivocal commitment that under no circumstances will it use or threaten to use nuclear weapons against non-nuclear weapon states or nuclear weapon-free zones.”<sup>272</sup> There were no changes to this policy during the reporting period.

**France**

**No change**

The 2008 *Livre Blanc* states that, “the use of nuclear weapons would be conceivable only in extreme circumstances of self-defence, as enshrined in the United Nations Charter,” but does not explicitly rule out the use of nuclear weapons against non-nuclear weapon states. The 2013 *Livre Blanc* did not change France’s policy on negative security assurances. According to France’s official NPT page, French policy on security assurances continues to be in line with its unilateral statement of April 1995.<sup>273</sup>

**Russia**

**No change**

No new doctrinal documents have been released, and there has been no change in Russia’s overall policy on security assurances since the 2010 NPT Review Conference. Russia ratified Protocols to the African NWFZ Treaty in 2011 (see Action 9).

**United Kingdom**

**No change**

There has been no change in the UK policy and doctrine since the release of SDSR in 2010, which stated that, “the UK will not use or threaten to use nuclear weapons against non-nuclear weapon states parties to the NPT,” except those “in material breach” of their nonproliferation obligations.<sup>274</sup>

This provision limited the scenarios for possible use compared to the 1998 Strategic Defence Review.<sup>275</sup> On the other hand, the 2010 SDSR adds a new caveat that reads, “while there is currently no direct threat to the UK or its vital interests from states developing capabilities in other weapons of mass destruction, for example chemical and biological, we reserve the right to review this assurance if the future threat, development and proliferation of these weapons make it necessary.”<sup>276</sup>

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<sup>272</sup> China’s National Defense in 2010, released on March 30, 2011, [www.china.org.cn/government/whitepaper/node\\_7114675.htm](http://www.china.org.cn/government/whitepaper/node_7114675.htm)

<sup>273</sup> Please see “Support and Assistance to Strengthening the Nuclear Non-Proliferation Regime,” France TNP website, [www.francetnp2010.fr/spip.php?article84](http://www.francetnp2010.fr/spip.php?article84)

<sup>274</sup> 2010 UK SDSR, p. 37-38.

<sup>275</sup> Under the 1998 SDR, negative security assurances did not apply to a NNWS that “attacks [the UK], [its] Allies or a state to which [it has] a security commitment, in association or alliance with a nuclear weapon state. “Negative Security assurances,” UK Strategic Defence Review, July 1998, paragraph 31.

<sup>276</sup> 2010 UK SDSR, p. 38.

## **United States**

### **No change**

No new doctrinal documents have been released, and there has been no change in US overall policy on security assurances since the 2010 Nuclear Posture Review. The NPR declared “the United States will not use or threaten to use nuclear weapons against any non-nuclear weapon state that is party to the NPT and in compliance with their nuclear non-proliferation obligations.<sup>277</sup>

The United States has not yet ratified the protocols to the Treaties of Pelindaba and Rarotonga, submitted by the White House to the Senate in 2011 (see Action 9).

**Action 9: The establishment of further nuclear-weapon-free zones, where appropriate, on the basis of arrangements freely arrived at among States of the region concerned, and in accordance with the 1999 Guidelines of the United Nations Disarmament Commission, is encouraged. All concerned States are encouraged to ratify the nuclear-weapon-free zone treaties and their relevant protocols, and to constructively consult and cooperate to bring about the entry into force of the relevant legally binding protocols of all such nuclear-weapon free zones treaties, which include negative security assurances. The concerned States are encouraged to review any related reservations.**

No new NWFZs were established during the reporting period, and no negotiations on a new NWFZ have started. Monitoring under this action item covers the five existing zones, compliance with their provisions, and ratification of protocols, as a separate set of decisions was adopted by the 2010 RevCon in relation to the Middle East zone free of nuclear weapons and all other weapons of mass destruction. Developments pursuant to those decisions are covered after Action 22.

## **NWFZ in Latin America and the Caribbean (Treaty of Tlatelolco)**

### ***Indicator 9.1. Relevant states join their respective NWFZ during the reporting period***

Not applicable – action completed prior to 2010

All eligible states had joined the Treaty of Tlatelolco by 2002.

### ***Indicator 9.2. Relevant/eligible states ratify protocols to the NWFZ during the reporting period (number of ratifications)***

Not applicable – action completed prior to 2010

All NWS had previously ratified Protocols to the Treaty of Tlatelolco.<sup>278</sup>

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<sup>277</sup> Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. 15.

<sup>278</sup> “Status of the Member States and Signatories to the Treaty of Tlatelolco,” OPANAL website, [www.opanal.org/opanal/tlatelolco/p-tlatelolco-i.htm](http://www.opanal.org/opanal/tlatelolco/p-tlatelolco-i.htm)

***Indicator 9.3. Nuclear-weapon states take steps toward ratification of NWFZ protocols—by submitting protocols to parliaments, declaring an intent to ratify, or engaging NWFZ members in consultations, negotiations, or other relevant activities to achieve signature and ratification of NWFZ protocols***

Not applicable - action completed prior to 2010

All NWS had previously ratified Additional Protocols to the Treaty of Tlatelolco.

***Indicator 9.4. NWS withdraw, revise, or otherwise reconsider the reservations and interpretive declarations previously attached to their signature and ratification of NWFZ protocols; absent that, NWS and NWFZ engage in consultations to facilitate the withdrawal of reservations***

No action

The Soviet Union expressed a number of reservations and interpretations at the time of signing Protocol II to the Treaty of Tlatelolco, and the Russian Federation has not revised or withdrawn those reservations.<sup>279</sup>

***Indicator 9.5. States parties to NWFZs implement respective treaties according to their provisions, including main prohibitions, safeguards requirements, and special requirements such as export controls***

Yes

No violations by states parties to Treaty of Tlatelolco were observed. However, Argentina lodged a protest with the United Nations in February 2012, arguing that the United Kingdom had sent a “nuclear-capable” (possibly nuclear-armed) submarine to the South Atlantic, violating commitments under Protocol I to the Treaty of Tlatelolco.<sup>280</sup> The United Kingdom stated it does not comment on the location of its nuclear submarine on patrol. In February 2013, Argentina again accused the United Kingdom of actions contrary to the Latin American NWFZ treaty and its protocols. Speaking at the CD, the representative of Argentina reiterated concerns about the possible presence of UK nuclear weapons in South Atlantic. The UK representative responded that there has been no “reinforcement” of UK military assets in the South Atlantic and that they honor the protocol to the Treaty of Tlatelolco.<sup>281</sup>

### **South Pacific Nuclear-Free Zone (SPNFZ; Treaty of Rarotonga)**

***Indicator 9.1. Relevant states join their respective NWFZ during the reporting period***

No new members

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<sup>279</sup> See “Communication Received from the Union of Soviet Socialist Republics Regarding the Treaty for the Prohibition of Nuclear Weapons in Latin America,” May 18, 1978,

[www.iaea.org/Publications/Documents/Infocircs/Others/inf262.shtml](http://www.iaea.org/Publications/Documents/Infocircs/Others/inf262.shtml)

<sup>280</sup> “UK Sent Nuclear Sub near Falklands, Says Argentina,” BBC, February 10, 2012, [www.bbc.co.uk/news/world-latin-america-16993391](http://www.bbc.co.uk/news/world-latin-america-16993391)

<sup>281</sup> UK Right of Reply, Ambassador Joanne Adamson, February 25, 2013,  
<http://ukmissiongeneva.fco.gov.uk/en/news/?view=News&id=859438082#>

Three dependent territories (Marshall Islands Republic, Federated States of Micronesia, and Palau) eligible to be Parties to the Treaty of Rarotonga, have not yet joined the treaty.<sup>282</sup>

***Indicator 9.2. Relevant/eligible states ratify protocols to the NWFZ during the reporting period (number of ratifications)***

None (Target: 1)

The United States is the only eligible state that has not yet ratified the protocols to the Treaty of Rarotonga.<sup>283</sup>

***Indicator 9.3. Nuclear weapon states take steps toward ratification of NWFZ protocols—by submitting protocols to parliaments; declaring an intent to ratify, or engaging NWFZ members in consultations, negotiations, or other relevant activities to achieve signature and ratification of NWFZ protocols***

Limited progress

There have been no new developments since May 2011, when President Obama submitted the three protocols of the South Pacific NFZ to the US Senate “with a view to receiving the advice and consent of the Senate to ratification.”<sup>284</sup>

***Indicator 9.4. NWS withdraw, revise or otherwise reconsider the reservations and interpretive declarations previously attached to their signature and ratification of NWFZ protocols; absent that, NWS and NWFZ engage in consultations to facilitate the withdrawal of reservations***

No action

France and Russia (as the Soviet Union) signed and ratified the protocols to Rarotonga with reservations, and no indication of intent to revise or withdraw these reservations was given during the reporting period. China and the United Kingdom did not attach any reservations to their ratifications.

***Indicator 9.5. States parties to NWFZs implement respective treaties according to their provisions, including main prohibitions, safeguards requirements, and special requirements such as export controls***

Yes +  Red flag

States parties to the South Pacific NFZ Treaty have been compliant with the main prohibitions under the treaty, but concerns arose in relation to potential nuclear trade with India. Article 4 of the Treaty of Rarotonga prohibits member states from exporting nuclear material and equipment to non-nuclear weapon states “unless subject to the safeguards required by Article III.1 of the NPT.”<sup>285</sup>

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<sup>282</sup> SPNFZ Treaty currently has 13 members: Australia, Cook Islands, Fiji, Kiribati, Nauru, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. Inventory of International Organizations and Regimes, [www.nti.org/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/](http://www.nti.org/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/)

<sup>283</sup> Inventory of International Organizations and Regimes, [www.nti.org/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/](http://www.nti.org/treaties-and-regimes/south-pacific-nuclear-free-zone-spnfz-treaty-rarotonga/); note that China and Russia are not eligible to sign Protocol I.

<sup>284</sup> Message to the Senate of the United States, Office of the Press Secretary, The White House, May 2, 2011, [www.whitehouse.gov/sites/default/files/2011spftreaty\\_msg\\_rel.pdf](http://www.whitehouse.gov/sites/default/files/2011spftreaty_msg_rel.pdf)

<sup>285</sup> South-Pacific Nuclear-Free Zone Treaty text, <http://cns.miis.edu/inventory/pdfs/aptspnfz.pdf>

In light of the exemption granted to India by the NSG, a number of states, including Australia, have begun to consider nuclear cooperation with the South Asian state. India is not party to the NPT, is not recognized as a nuclear weapon state under the Treaty, and does not have a comprehensive safeguards agreement with the IAEA. As such, it appears that supplying India with uranium would be in contravention of the Treaty of Rarotonga, though some observers have argued that India could be recognized as a “special case” rather than a non-nuclear weapon state.<sup>286</sup> It is unclear how one could legally circumvent the specific reference to safeguards required by the NPT short of amending the Rarotonga Treaty.

In December 2011, Australia’s ruling Labor Party, at a national party conference, adopted a decision to allow the export of uranium to India.<sup>287</sup> “Other than the requirement of NPT membership, Australia will apply the same approach to India as we do to other countries to which we export uranium—a bilateral safeguards agreement, and conclusion of the IAEA Additional Protocol,” Defense Minister Stephen Smith announced on December 9, 2011.<sup>288</sup> In October 2012, during her visit to India, Australia’s Prime Minister Julia Gillard and Indian Prime Minister Manmohan Singh agreed to start the negotiations of a bilateral safeguards agreement, to verify that uranium sold by Australia is not used for India’s weapons program. As of March 2014, four rounds of talks had taken place and, according to Australia’s High Commissioner to India Patrick Suckling, they had made “good progress.”<sup>289</sup> In November 2013, media reported that Australia’s Foreign Minister Julie Bishop avoided a direct response when asked if verification provisions under the new agreement “would be as strong” as under Australia’s other nuclear cooperation agreements.<sup>290</sup>

### **Southeast Asian NWFZ (SEANWFZ; Treaty of Bangkok)**

#### ***Indicator 9.1. Relevant states join their respective NWFZ during the reporting period***

##### **Action completed prior to 2010**

The action was completed prior to 2010, with all ten eligible states becoming members of the Southeast Asian NWFZ.

#### ***Indicator 9.2. Relevant/eligible states ratify protocols to the NWFZ during the reporting period (number of ratifications)***

None (Target: 5)

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<sup>286</sup> John Carlson, “India, Uranium, and the Rarotonga Objection,” *The Interpreter*, Lowy Institute for International Policy, November 30, 2011, [www.lowyinterpreter.org/post/2011/11/30/India-uranium-and-the-Raratonga-objection.aspx](http://www.lowyinterpreter.org/post/2011/11/30/India-uranium-and-the-Raratonga-objection.aspx); for a brief overview of the debate, see Daniel Horner, “Australia Allows Uranium Sales to India,” *Arms Control Today*, January/February 2012, [www.armscontrol.org/act/2012\\_01-02/Australia\\_Allows\\_Uranium\\_Sales\\_to\\_India](http://www.armscontrol.org/act/2012_01-02/Australia_Allows_Uranium_Sales_to_India).

<sup>287</sup> As announced by Australia’s Minister for Defence Stephen Smith during a visit to India on December 9, 2011, [www.minister.defence.gov.au/2011/12/10/minister-for-defence-australia-and-india-building-the-strategic-partnership](http://www.minister.defence.gov.au/2011/12/10/minister-for-defence-australia-and-india-building-the-strategic-partnership).

<sup>288</sup> Ibid.

<sup>289</sup> R.K. Radhakrishnan, “Civil Nuclear Deal Talks Making Good Progress, Says Australian Envoy,” *The Hindu*, March 14, 2014, [www.thehindu.com/news/national/civil-nuclear-deal-talks-making-good-progress-says-australian-envoy/article5781885.ece](http://www.thehindu.com/news/national/civil-nuclear-deal-talks-making-good-progress-says-australian-envoy/article5781885.ece).

<sup>290</sup> Stephanie March, “Nuclear Deal: Australia’s Uranium Deal with India May Include Weaker Monitoring Safeguards,” ABC, November 19, 2013, [www.abc.net.au/news/2013-11-19/australia27s-nuclear-deal-with-india/5101030](http://www.abc.net.au/news/2013-11-19/australia27s-nuclear-deal-with-india/5101030).

As of March 2013, none of the NWS has signed the protocol to the Bangkok Treaty, although significant progress in overcoming the differences between the NWS and SEANWFZ parties was achieved in 2011 (please see indicator 9.3.).

Previously, the NWS had expressed concerns about the application of the protocol to the exclusive economic zones (EEZ). The protocol commits the parties to refrain from the use or threat of use of nuclear weapons against members of the zone, as well as to not use nuclear weapons within the zone. As the geographical definition of the zone includes EEZs, the protocol has implications for NWS operating nuclear-armed submarines, presumably prohibiting the entry of such submarines into the EEZs and the launch of nuclear-tipped missiles from within the zone. China's concern with the treaty is related to territorial claims in the South China Sea.

***Indicator 9.3. Nuclear weapon states take steps toward ratification of NWFZ protocols—by submitting protocols to parliaments; declaring intent to ratify, or engaging NWFZ members in consultations, negotiations, or other relevant activities to achieve signature and ratification of NWFZ protocols***

2010-2011: Significant progress

2012-2014: No progress

On November 14, 2011, the Executive Committee of the SEANWFZ Commission met with nuclear weapon states and came to an agreement that would allow for the signing of the SEANWFZ protocol by the NWS.<sup>291</sup> According to a US statement at the CD in January 2012, “The Nuclear Weapon States and the states of ASEAN resolved long standing differences related to the South East Asian Nuclear-Weapon-Free Zone’s Protocol language.”<sup>292</sup> The details of the agreement were not made public, but it appeared that the sides decided to amend the protocol to Southeast Asian NWFZ so as to clarify that it does not apply to the EEZs.<sup>293</sup> China has expressed concerns about the geographic area of application of the Bangkok Treaty in light of its own territorial claims in the South China Sea. As a result of the negotiations in 2011, states had agreed to conclude a separate memorandum of understanding (MoU) between China and ASEAN (SEANWFZ states) on this matter, and the MoU would be referred to in the “accession protocol.”<sup>294</sup>

It was expected that the five NWS would sign the protocol on July 12, 2012, and that ASEAN and China would sign the MoU on July 10, 2012. However, at the last moment, the signings were postponed, reportedly because some of the NWS informed ASEAN that they would express

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<sup>291</sup> “ASEAN FMs Agree on Nuclear-Free Zone,” Xinhua, November 16, 2011, [http://news.xinhuanet.com/english2010/world/2011-11/16/c\\_131250652.htm](http://news.xinhuanet.com/english2010/world/2011-11/16/c_131250652.htm); “Nuclear Powers to Mull Backing Southeast Asian Atomic-Free Zone,” Global Security Newswire, November 16, 2011, [www.nti.org/gsn/article/nuclear-powers-to-mull-backing-southeast-asian-atomic-free-zone/](http://www.nti.org/gsn/article/nuclear-powers-to-mull-backing-southeast-asian-atomic-free-zone/); and “Outcome of Meeting of the SEANWFZ Commission, Bali, Indonesia, 15 November 2011,” Ministry of Foreign Affairs of the Republic of Indonesia, No.

205/PR/XI/2011/53, November 15, 2011, [www.kemlu.go.id/Pages/PressRelease.aspx?IDP=1277&l=en](http://www.kemlu.go.id/Pages/PressRelease.aspx?IDP=1277&l=en)

<sup>292</sup> Statement at the Conference on Disarmament, January 24, 2012, [www.reachingcriticalwill.org/political/cd/2012/statements/part1/24january\\_US.pdf](http://www.reachingcriticalwill.org/political/cd/2012/statements/part1/24january_US.pdf)

<sup>293</sup> Based on information from diplomats familiar with consultations.

<sup>294</sup> “ASEAN, P-5 Meet to Smoothen SEANWFZ Accession,” *The Jakarta Post*, November 15, 2011, [www.thejakartapost.com/news/2011/11/15/asean-p5-meet-smoothen-seanwfz-accession.html](http://www.thejakartapost.com/news/2011/11/15/asean-p5-meet-smoothen-seanwfz-accession.html), and “ASEAN Wooing Nuclear Powers,” *The Jakarta Post*, July 19, 2011, [www.thejakartapost.com/news/2011/07/19/asean-wooing-nuclear-powers-disarmament-push.html](http://www.thejakartapost.com/news/2011/07/19/asean-wooing-nuclear-powers-disarmament-push.html)

reservations or attach interpretative statements to their signatures.<sup>295</sup> Specifically, France intended to attach an interpretative statement concerning the right to self-defense, Russia on the transit of nuclear weapons through the zone, and the United Kingdom on the implications of possible emergence of new threats.<sup>296</sup> The United States indicated that it might have to attach an interpretative statement, but not until the ratification stage. China remained ready to sign the protocol and MoU. As of April 2014, the disagreement between ASEAN and the four NWS over the reservations and interpretative statements has not been resolved and no new date for the signature of the protocol has been set.

***Indicator 9.4. NWS withdraw, revise or otherwise reconsider the reservations and interpretive declarations previously attached to their signature and ratification of NWFZ protocols; absent that, NWS and NWFZ engage in consultations to facilitate the withdrawal of reservations***

**Not applicable**

NWS have not yet ratified the SEANWFZ protocol.

***Indicator 9.5. States parties to NWFZs implement respective treaties according to their provisions, including main prohibitions, safeguards requirements, and special requirements such as export controls***

**Yes**

No evidence found of noncompliance with the main provisions under the SEANFWZ Treaty; all the states have relevant safeguards agreements with the IAEA in place.

**African NWFZ (ANWFZ, Treaty of Pelindaba)**

***Indicator 9.1. Relevant states join their respective NWFZ during the reporting period***

**Yes, seven more member states**

Twenty-nine states had ratified African NWFZ Treaty and deposited instruments of ratification to the African Union (AU) Commission at the time of the 2010 NPT Review Conference.<sup>297</sup> Twenty-three other states had signed but not ratified the Treaty, and one more state (Cameroon) had ratified but not yet deposited its instrument of ratification by May 2010.

Since the 2010 NPT Review Conference, seven states have joined the Pelindaba Treaty: Cameroon, Chad, Comoros, Congo, Ghana, Guinea-Bissau, Namibia, and Zambia.<sup>298</sup> The Sahrawi Arab Democratic

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<sup>295</sup> “ASEAN Postpones All Signings on SE Asia Nuke-Free Zone Documents This Week,” *Xinhua*, July 9, 2012, [http://news.xinhuanet.com/english/world/2012-07/09/c\\_131703795.htm](http://news.xinhuanet.com/english/world/2012-07/09/c_131703795.htm)

<sup>296</sup> A diplomat familiar with negotiations indicated that the UK was planning to attach an interpretative statement concerning possible emergence of new threats in the chemical and biological warfare realm. This would be generally in line with its SDSR but quite different from any of the interpretations or reservations that have so far been attached to ratifications and signatures of NWFZ protocols.

<sup>297</sup> Including the Sahrawi Arab Democratic Republic.

<sup>298</sup> Cameroon ratified the Treaty of Pelindaba in June 2009, but deposited its instrument of ratification only in September 2010. Congo was the latest NPT state to join, in November 2013. The list of countries which have signed, ratified/acceded to the African Nuclear-Weapon-Free Zone Treaty (The Treaty of Pelindaba), African Union website, <http://www.au.int/en/sites/default/files/pelindaba%20Treaty.pdf>. The list excludes Morocco, which is not an African Union member but signed the African NWFZ treaty in 1996.

Republic, which is not a member of the UN and not a party to the NPT, also ratified the Pelindaba Treaty in early 2014. Currently, 38 states are party to the Treaty. 16 states that had signed the treaty before 2010 have yet to ratify it (including Morocco, which is not an AU member).<sup>299</sup> South Sudan became eligible to join the African NWFZ after gaining independence in 2011. It joined the African Union in 2011, but has not yet acceded to the Treaty of Pelindaba or the NPT. Overall then, there are 17 eligible countries that have yet to join the African NWFZ.<sup>300</sup>

***Indicator 9.2. Eligible states ratify protocols to the NWFZ during the reporting period (number of ratifications)***

**One: Protocols I and II (Target: Two for Protocols I and II; One for Protocol III)**

As of May 2010, two NWS—Russia and the United States—were yet to ratify Protocols I and II to the African NWFZ Treaty, which commit them not to use or threaten to use nuclear weapons against states of the zone and not to test or assist or encourage the testing of nuclear explosive devices on the territory of the zone, respectively. Spain is the last state that is eligible to sign and ratify Protocol III, which would commit it to apply provisions of the Treaty of Pelindaba to the territories located within the zone for which it is *de jure* or *de facto* internationally responsible.

Russia ratified Protocols I and II in March 2011. However, it attached reservations to its ratification. First, Russia does not rule out the possibility of using nuclear weapons “against states that are part of the zone free from nuclear weapons in Africa in situations where they have allied commitments to other nuclear states and may participate in military actions using nuclear weapons against Russia, or are members of the corresponding coalitions.”<sup>301</sup> Second, Russia does not recognize the application of the Pelindaba Treaty to Diego Garcia, an island in Indian Ocean under UK control that is used as a military base by the United States.

***Indicator 9.3. Nuclear weapon states take steps toward ratification of NWFZ protocol—by submitting protocols to parliaments; declaring an intent to ratify, or engaging NWFZ members in consultations, negotiations, or other relevant activities to achieve signature and ratification of NWFZ protocols***

**No progress since 2011**

On May 3, 2010, US Secretary of State Hillary Clinton announced at the 2010 NPT Review Conference that the US administration was preparing to submit the treaty protocols to the US Senate for approval.

On May 2, 2011, the Obama administration submitted Protocols I and II for Senate advice and consent to ratification.<sup>302</sup> No action has been taken since 2011, and it is unclear whether the issue will be addressed in 2014.

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<sup>299</sup> In the 2012 Monitoring report, Morocco was mistakenly counted as a member state. However, it has not yet ratified the Treaty of Pelindaba.

<sup>300</sup> This includes Morocco and South Sudan.

<sup>301</sup> “Russia Ratifies African Nuke-Free Zone Pact,” Global Security Newswire, March 14, 2011, [www.nti.org/gsn/article/russia-ratifies-african-nuke-free-zone-pact/](http://www.nti.org/gsn/article/russia-ratifies-african-nuke-free-zone-pact/).

<sup>302</sup> Message to the Senate of the United States, Office of the Press Secretary, The White House, May 2, 2011, [www.whitehouse.gov/sites/default/files/2011african\\_msg\\_rel.pdf](http://www.whitehouse.gov/sites/default/files/2011african_msg_rel.pdf); Inventory of International Organizations and Regimes, [www.nti.org/treaties-and-regimes/african-nuclear-weapon-free-zone-anwfz-treaty-pelindaba-treaty/](http://www.nti.org/treaties-and-regimes/african-nuclear-weapon-free-zone-anwfz-treaty-pelindaba-treaty/)

**Indicator 9.4. NWS withdraw, revise, or otherwise reconsider the reservations and interpretive declarations previously attached to their signature and ratification of NWFZ protocols; absent that, NWS and NWFZ engage in consultations to facilitate the withdrawal of reservations**

No action

**Indicator 9.5. States parties to NWFZs implement respective treaties according to their provisions, including main prohibitions, safeguards requirements, and special requirements such as export controls**

Yes +  Red Flag

States parties to the Pelindaba Treaty have been compliant with the main prohibitions under the treaty. However, three of the Pelindaba member states (Benin, Guinea-Bissau, and Guinea) have not yet brought into force their comprehensive safeguards agreements with the IAEA (as mandated by Article 9 (b) of the treaty). Equatorial Guinea, also a member of ANWFZ, has not yet signed its comprehensive safeguards agreement, which has been approved by the IAEA Board of Governors.<sup>303</sup>

In October 2011, it was reported that India sought to import uranium from South Africa. India's High Commissioner to South Africa Virender Gupta reportedly said the two countries had already started discussions on the matter.<sup>304</sup> Supply of uranium to India, a country that does not have a comprehensive safeguards agreement with the IAEA, appears to contradict Article 9(c) of the Pelindaba Treaty.

Namibia, which ratified the Pelindaba Treaty in early 2012, had previously concluded a nuclear cooperation agreement with India that allows for the supply of uranium to the latter.<sup>305</sup> It is unclear whether Namibia had already sold any uranium to India before joining the Pelindaba Treaty, and how it is reconciling the provisions of the two agreements.

Article 12 of the Pelindaba Treaty mandates the establishment of the African Nuclear Energy Commission (AFCONE), to ensure compliance with the treaty. Towards that end, the First Conference of States Parties was held in Addis Ababa on November 4, 2010. The Conference of States Parties elected 12 commissioners for a three-year term and endorsed the decision to establish the headquarters of AFCONE in South Africa.<sup>306</sup> On May 4, 2011, AFCONE held its First Ordinary Session to decide on the Commission's structure, budget and rules of procedure, "as well as to elect

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<sup>303</sup> NPT Comprehensive Safeguards Agreements: Overview of Status, IAEA, [www.iaea.org/Publications/Factsheets/English/nptstatus\\_overview.html](http://www.iaea.org/Publications/Factsheets/English/nptstatus_overview.html)

<sup>304</sup> See "India Wants South African Uranium" Global Security Newswire, October 19, 2011, [www.nti.org/gsn/article/india-wants-south-african-uranium/](http://www.nti.org/gsn/article/india-wants-south-african-uranium/), and Parvin Padmanahan, "India Hopes It can Import Uranium from South Africa," IANS India Private Limited, October 18, 2011, <http://in.news.yahoo.com/india-hopes-import-uranium-south-africa-165934959.html>

<sup>305</sup> "India Offers Namibia \$100 mn, Signs Nuclear Deal," *IndiaAfrica Connect*, August 31, 2009, [www.indiaafricacconnect.in/index.php?param=news/244/the-big-story/114](http://www.indiaafricacconnect.in/index.php?param=news/244/the-big-story/114)

<sup>306</sup> Institute for Strategic Studies report, October 2011, p. 7.

its chairman and vice-chairman and to establish a process to appoint an executive secretary.”<sup>307</sup> The Second Ordinary Session took place on July 26, 2012 and adopted AFCONE’s budget, rules of procedure, and program of work. The latter includes “monitoring of compliance by the State Parties with their nonproliferation obligations; nuclear and radiation safety and security; nuclear sciences and technology; partnership and technical cooperation.”<sup>308</sup> The government of South Africa reported it was finalizing the AFCONE host agreement with the African Union Commission. The Second Conference of States Parties took place in November 2012 in Addis Ababa.

### **Central Asian NWFZ (CANWFZ)**

#### ***Indicator 9.1. Relevant states join their respective NWFZ during the reporting period***

Not applicable—action completed prior to 2010

All the states eligible to join the Central Asian NWFZ had ratified the treaty prior to the 2010 NPT Review Conference, and CANWFZ entered into force in March 2009.

#### ***Indicator 9.2. Relevant/eligible states ratify protocols to the NWFZ during the reporting period (number of ratifications)***

None

None of the NWS have signed the protocol to the Central Asian NWFZ Treaty.

France, the United Kingdom and the United States had long opposed the CANWFZ treaty and refused to recognize the zone, arguing that provisions in Article XII of the treaty would allow the stationing of Russian nuclear weapons in Central Asia if the Tashkent (Collective Security Organization) Treaty is invoked. The situation changed in 2013-early 2014, and the three NWS are now preparing to sign the protocol along with Russia and China.

Russia has repeatedly stated that it had no problem with the text of the Central Asia NWFZ Treaty “as-is,” and was ready to sign the Protocol. China has also welcomed CANWFZ and expressed its readiness to join its protocol.

#### ***Indicator 9.3. Nuclear weapon states take steps toward ratification of NWFZ protocols—by submitting protocols to parliaments; declaring an intent to ratify, or engaging NWFZ members in consultations, negotiations, or other relevant activities to achieve signature and ratification of NWFZ protocols***

Progress

At the 2010 NPT Review Conference, US Secretary of State Hillary Clinton expressed US willingness to engage with CANWFZ member states to resolve the disagreements over the treaty provisions.

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<sup>307</sup> Noel Stott, “The Treaty of Pelindaba: Towards the Full Implementation of the African WNFZ Treaty,” UNIDIR report, p. 21, <http://unidir.org/pdf/articles/pdf-art3083.pdf>

<sup>308</sup> “Africa: The African Commission on Nuclear Energy Convenes Its Second Meeting,” Press Release, July 26, 2012, <http://allAfrica.com/stories/201207261025.html>

Since then, the Central Asia states have held consultations with the United States, including on the margins of the NPT PrepCom and UNGA First Committee sessions. As a result of consultations between CANWFZ members and the NWS during 2013, the sides agreed that the NWS would sign the protocol, but with interpretative statements or reservations.<sup>309</sup> The sides are planning to have the signing ceremony on the margins of the 2014 PrepCom session.

***Indicator 9.4. NWS withdraw, revise or otherwise reconsider the reservations and interpretive declarations previously attached to their signature and ratification of NWFZ protocols; absent that, NWS and NWFZ engage in consultations to facilitate the withdrawal of reservations***

Not applicable

***Indicator 9.5. States parties to NWFZs implement respective treaties according to their provisions, including main prohibitions, safeguards requirements, and special requirements such as export controls***

Yes +  Red Flag

The Central Asian states have been compliant with the main prohibitions under the CANWFZ treaty, as well as provisions on concluding safeguards agreements with the IAEA. CANWFZ requires its member states to conclude Additional Protocols (APs) to the Comprehensive Safeguards Agreements with the IAEA. Kazakhstan, Tajikistan, Turkmenistan, and Uzbekistan all had their APs in force prior to 2010. Kyrgyzstan brought its Additional Protocol into force on November 10, 2011.<sup>310</sup>

CANWFZ members' nuclear cooperation with India, however, appears to contradict some of the provisions of the treaty. Article 8.c of the CANWFZ Treaty obligates states not to provide source or special fissionable material and related technologies to non-nuclear weapon states that have not concluded with the IAEA a comprehensive safeguards agreement (INFCIRC/153) and the Additional Protocol.<sup>311</sup>

As already noted above (see the South Pacific Nuclear-Free Zone section under Action 9), India is not recognized as a nuclear weapon state under the NPT; it does not have a comprehensive safeguards agreement with the IAEA, and its Additional Protocol has not yet entered into force. However, in January 2009, Kazakhstan's state nuclear company Kazatomprom signed a memorandum of understanding with the Nuclear Power Corporation of India Ltd., outlining "potential areas of cooperation between the two companies, including the supply of natural uranium and fuel elements from Kazakhstan to India."<sup>312</sup> The two countries signed a nuclear cooperation agreement in April 2011, with official remarks indicating that Kazakhstan would sell over 2,000 tons

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<sup>309</sup> Conversations with diplomats familiar with the consultations.

<sup>310</sup> Conclusion of Additional Protocols: Status as of 20 February 2012, IAEA, [www.iaea.org/OurWork/SV/Safeguards/documents/AP\\_status\\_list.pdf](http://www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf).

<sup>311</sup> Central Asian Nuclear-Weapon-Free Zone Treaty text (emphasis added), Inventory of International Organizations and Regimes, CNS, <http://cns.miis.edu/inventory/pdfs/ptcanwz.pdf>

<sup>312</sup> "Казахстан и Индия договорились о расширении диапазона сотрудничества в атомной области" ("Kazakhstan and India Agreed on Broadening Cooperation in Nuclear Sphere"), Kazatomprom press release, January 24, 2009, [www.kazatomprom.kz](http://www.kazatomprom.kz). See NTI website, Kazakhstan nuclear chronology, [www.nti.org/media/pdfs/kazakhstan\\_nuclear.pdf?\\_=1316466791](http://www.nti.org/media/pdfs/kazakhstan_nuclear.pdf?_=1316466791).

of uranium to India by 2014.<sup>313</sup> In an interview in December 30, 2013, Kazakhstan's ambassador to India stated that Kazakhstan had supplied 3,500 tons of uranium to India. The two countries reportedly have also agreed to continue nuclear cooperation beyond 2014, and the scope of the next agreement would be larger.<sup>314</sup>

In October in 2013, it was reported that Uzbekistan, too, was in talks with India regarding uranium supply. India was aiming to import 2,000 tons of uranium from Uzbekistan in the near future.<sup>315</sup>

**Action 10: All nuclear weapon States undertake to ratify the Comprehensive Nuclear-Test-Ban Treaty with all expediency, noting that positive decisions by nuclear weapon States would have the beneficial impact towards the ratification of that Treaty, and that nuclear weapon States have the special responsibility to encourage Annex 2 countries, in particular those which have not acceded to the Treaty on the Non-Proliferation of Nuclear Weapons and continue to operate unsafeguarded nuclear facilities, to sign and ratify.**

***Indicator 10.1. Number of new CTBT ratifications by the NWS in the reporting period; number of other Annex 2 states—the ratification by which is required for the CTBT's entry-into-force—that have ratified in the reporting period***

NWS: 0 (Target: 2)

Other Annex 2 states: 1 (Target: 7)

Other states: 8

Since May 2010, a total of nine states ratified the CTBT.<sup>316</sup> The latest country to do so was Niue, on March 4, 2014.<sup>317</sup> Other states that have ratified the treaty during the reporting period (April 2013-April 2014) are Guinea-Bissau and Iraq. The CTBT now has 162 states parties and another 21 signatories.

The Parliament of Indonesia, an Annex 2 state, approved the CTBT on December 6, 2011, and Indonesia deposited its instrument of ratification on February 6, 2012.<sup>318</sup> Two more Annex 2 states that are non-nuclear weapon states party to the NPT have yet to ratify the CTBT: Egypt and Iran.

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<sup>313</sup> “India-Kazakhstan Nuclear Cooperation Agreement Signed,” World Nuclear News, April 18, 2011, [www.world-nuclear-news.org/NP-India\\_Kazakhstan\\_nuclear\\_cooperation\\_agreement\\_signed-1804118.html](http://www.world-nuclear-news.org/NP-India_Kazakhstan_nuclear_cooperation_agreement_signed-1804118.html), and “Kazakhstan, India Sign Energy Deals,” RIA Novosti, April 16, 2011, <http://en.rian.ru/business/20110416/163555805.html>.

<sup>314</sup> Dipanjan Roy Chaudhury “Scope of India, Kazakhstan Contract for Fresh Uranium Supply Will Be Bigger than Before,” *The Economic Times*, December 30, 2013, [http://articles.economictimes.indiatimes.com/2013-12-30/news/45711154\\_1\\_kazatomprom-uranium-resources-kazakhstan-ambassador](http://articles.economictimes.indiatimes.com/2013-12-30/news/45711154_1_kazatomprom-uranium-resources-kazakhstan-ambassador).

<sup>315</sup> India Looking to Import Uranium from Uzbekistan,” *The Times of India*, October 6, 2013, <http://timesofindia.indiatimes.com/india/India-looking-to-import-uranium-from-Uzbekistan/articleshow/23604677.cms>.

<sup>316</sup> These are Brunei Darussalam, Chad, Ghana, Guatemala, Guinea, Guinea-Bissau, Indonesia, Iraq, and Niue. Central African Republic and Trinidad and Tobago joined the CTBT during the 2010 RevCon, on May 26, 2010. See CTBTO website: [www.ctbto.org/the-treaty/status-of-signature-and-ratification/](http://www.ctbto.org/the-treaty/status-of-signature-and-ratification/).

<sup>317</sup> Note, however, that Niue is not party to the NPT.

<sup>318</sup> “Ban Welcomes Indonesia’s Ratification of Treaty Banning Nuclear Tests,” UN News Center, December 6, 2011, [www.un.org/apps/news/story.asp?NewsID=40633](http://www.un.org/apps/news/story.asp?NewsID=40633). To enter into force, the CTBT must be ratified by 44 states listed in

The United States and China, both Annex 2 states, did not ratify the CTBT during the reporting period.

Nine states parties to the NPT have not yet signed the CTBT.

***Indicator 10.2. NWS and other Annex 2 states announce their intent to ratify; submit treaty for ratification by national legislature; or undertake other steps towards ratification***

**China**

**No change in position, no new actions**

China had several years ago submitted the CTBT to the National People's Congress for its review, but no progress has been reported since. At the Article XIV Conference (on facilitating the CTBT's entry-into-force) in September 2013, Chinese representative stated that, "The Chinese government will continue to push forward the deliberation process...China will never become the obstacle for the Treaty's entry-into-force."<sup>319</sup>

**Egypt**

**No change in position, no new actions**

Egypt has traditionally linked its accession to new arms control treaties and acceptance of new nonproliferation measures to Israel's accession to the NPT as a non-nuclear weapon state. In a somewhat softer stance, Egypt has also linked its support to progress on establishing a zone free of weapons of mass destruction in the Middle East. Egypt's statements at the Article XIV Conference in September 2011 and September 2013 did not signal a change in this position.<sup>320</sup> Speaking at the Eighth Article XIV Conference, Egyptian representative suggested that steps on the creation of the Middle East WMD-free zone would open "new horizons" for the CTBT in the region and beyond, rather than the other way around.<sup>321</sup> In his statement at the UN General Assembly in September 2013, Egypt's Foreign Minister Nabil Fahmy proposed that states in the Middle East that have not acceded to WMD-related conventions should commit to "simultaneously sign and ratify the relevant conventions."<sup>322</sup> However, he did not mention the CTBT in his proposal.

**Iran**

**No action**

Iran did not deliver a statement at the Article XIV Conference in September 2013, and did not otherwise indicate an intent to ratify the CTBT. Thus far, progress towards ratification of the CTBT by the Islamic Republic has been overshadowed by the discussions of its nuclear program and suspicions that Iran seeks or has previously sought nuclear weapons. It remains to be seen if the

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Annex 2 of the treaty and thus known as "Annex 2 states." Apart from the countries listed here, Annex 2 states are also DPRK, India, Israel, and Pakistan.

<sup>319</sup> Statement by Mr. Pang Sen, Director-General of the Department of Arms Control and Disarmament of MFA, Head of the Chinese Delegation at the 2013 Conference on Facilitating the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty," New York, 27 September 2013, . See CTBTO website:

[http://www.ctbto.org/fileadmin/user\\_upload/Art\\_14\\_2013/Statements/china.pdf](http://www.ctbto.org/fileadmin/user_upload/Art_14_2013/Statements/china.pdf).

<sup>320</sup> Statement at the Article XIV Conference, New York, September 2011,  
[www.ctbto.org/fileadmin/user\\_upload/Art\\_14\\_2011/Statements/Egypt.pdf](http://www.ctbto.org/fileadmin/user_upload/Art_14_2011/Statements/Egypt.pdf).

<sup>321</sup> Statement by Amr Aljowaily, Counselor, Permanent Mission of Egypt to the United Nations, New York, September 27, 2013, [http://ctbto.org/fileadmin/user\\_upload/Art\\_14\\_2013/Statements/egypt\\_arabic.pdf](http://ctbto.org/fileadmin/user_upload/Art_14_2013/Statements/egypt_arabic.pdf).

<sup>322</sup> Address to the 68<sup>th</sup> Session of the General Assembly of the United Nations by R.E. Mr. Nabil Fahmy, Minister of Foreign Affairs of the Arab Republic of Egypt, New York, September 28, 2013.

outcome of the ongoing negotiations between Iran and the EU3+3 on the former's nuclear program will have an impact on Iran's position regarding CTBT ratification.

## **United States**

### **No visible progress**

Upon assuming the office in 2009, President Obama announced the intent to “immediately and aggressively” pursue ratification of the CTBT, but the issue has not yet been brought before the Senate, which must give its approval and consent for ratification.

US Under-Secretary of State Rose Gottemoeller has been leading an “information exchange” campaign focused on providing the senators and staffers with factual and technical information about CTBT verification and US stockpile stewardship program. In 2013, for example, the US Department of State published on its website twelve factsheets on the CTBT history and monitoring and verification provisions, as well as the US Stockpile Stewardship program. The work is being done as a preparation for eventual debate in the Senate, but the administration has not made public any timelines or more specific plans for ratification.<sup>323</sup> Speaking in the Marshall Islands in March 2013, Under-Secretary Gottemoeller stated that the United States would be “patient” in pursuit of the ratification. She added that the understanding of the “dangerous health effects of nuclear explosive testing” contributed to the US motivations for the pursuit of nuclear disarmament.<sup>324</sup>

On March 30, 2012 the US National Academy of Sciences released a report concluding that the United States would be able to maintain the safety and reliability of its nuclear arsenal in the absence of explosive nuclear testing, and that the capability to detect nuclear explosions had significantly improved since the previous report, released in 2002.<sup>325</sup>

**Action 11: Pending the entry-into-force of the Comprehensive Nuclear-Test-Ban Treaty, all states commit to refrain from nuclear weapon test explosions or any other nuclear explosions, the use of new nuclear weapons technologies and from any action that would defeat the object and purpose of that Treaty, and all existing moratoriums on nuclear-weapon test explosions should be maintained.**

### ***Indicator 11.1. States parties refrain from nuclear testing (maintain a moratorium)***

#### **Yes**

All five NWS have maintained their moratoria on nuclear test explosions.

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<sup>323</sup> Statement by Rose Gottemoeller at the Article XIV Conference, New York, September 2011, available at <http://usun.state.gov/briefing/statements/2011/173911.htm>; “Opening Statement by Rose Gottemoeller, Assistant Secretary of State, at the Conference on Disarmament, January 24, 2012, U.S. Department of State website, [www.state.gov/t/avc/rls/182385.htm](http://www.state.gov/t/avc/rls/182385.htm).

<sup>324</sup> Remarks by Rose Gottemoeller , Acting Under Secretary for Arms Control and International Security, at the Republic of Marshall Islands Nuclear Remembrance Day, Majuro, Marshall Islands, March 1, 2014, [www.state.gov/t/us/2014/222790.htm](http://www.state.gov/t/us/2014/222790.htm).

<sup>325</sup> The Committee on Reviewing and Updating Technical Issues Related to the Comprehensive Nuclear Test Ban Treaty, “The Comprehensive Nuclear-Test-Ban Treaty: Technical Issues for the United States,” The National Academies Press, March 30, 2012, [www.nap.edu/catalog.php?record\\_id=12849](http://www.nap.edu/catalog.php?record_id=12849).

DPRK, whose legal status under the NPT was never properly settled after it announced withdrawal from the Treaty in 2003, conducted its third nuclear weapon test on February 12, 2013 (February 11 in the Western Hemisphere). According to the CTBTO's International Data Center, the magnitude of the seismic event was 4.9.<sup>326</sup> CTBTO does not make estimates of the yield.

### ***Indicator 11.2. States do not produce/design new nuclear warheads and weapons systems***



#### **Red Flag**

While the main prohibition under the CTBT concerns the conduct of nuclear explosions, the overarching purpose of the test ban treaty is progress towards nuclear disarmament and complete elimination of nuclear weapons, as stated in its preamble.<sup>327</sup> In this regard, the development of new nuclear weapons systems and their deployment would appear to defeat the long-term purpose and spirit of the CTBT. As discussed under Action 1, all NWS are modernizing their nuclear arsenals at varying rates, with only the United Kingdom yet to make the final decision on the replacement of its Vanguard SSBNs that carry Trident missiles and the production of a new warhead for Trident. France has recently deployed a new warhead (the TNA) on its air-launched cruise missile and is scheduled to begin deployment of the new TNO warhead on its SLBMs in 2015. Russia has also been testing a new warhead (see Action 1).

Furthermore, while all five NWS maintain their moratoria on nuclear weapons test explosions, the United States, United Kingdom (jointly with the United States), Russia, and possibly China conduct so-called subcritical tests, which involve nuclear material and high conventional explosives, but do not produce a sustained nuclear chain reaction. Since the 2010 Review Conference, the United States has conducted four subcritical tests, the latest of which took place on December 5, 2012.<sup>328</sup> The next two planned subcritical experiments have been named Leda and Lyra, and at least one of them is planned for 2014.<sup>329</sup> The defense cooperation agreement France and the United Kingdom concluded in November 2010 provides for the two states' collaboration in conducting experiments that "will model performance of [their] nuclear warheads and materials to ensure long-term viability, security and safety."<sup>330</sup> Construction of facilities covered by this agreement is in progress in both countries.<sup>331</sup>

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<sup>326</sup> Technical Secretariat of the CTBTO Preparatory Commission provides detailed information directly to states parties and signatories. "Update on CTBTO Findings Related to the Announced Nuclear Test by North Korea," CTBTO Preparatory Commission, February 15, 2013, [www.ctbto.org/press-centre/highlights/2013/update-on-ctbto-findings-related-to-the-announced-nuclear-test-by-north-korea/](http://www.ctbto.org/press-centre/highlights/2013/update-on-ctbto-findings-related-to-the-announced-nuclear-test-by-north-korea/)

<sup>327</sup> For example, "Recognizing that the cessation of all nuclear weapon test explosions and all other nuclear explosions [...] constitutes an effective measure of nuclear disarmament and non-proliferation in all its aspects" and "Further recognizing that an end to all such nuclear explosions will thus constitute a meaningful step in the realization of a systematic process to achieve nuclear disarmament." For the full text, see CTBT page, NTI website, [www.nti.org/treaties-and-regimes/comprehensive-nuclear-test-ban-treaty-ctbt/](http://www.nti.org/treaties-and-regimes/comprehensive-nuclear-test-ban-treaty-ctbt/)

<sup>328</sup> According to NNSA, this latest subcritical test, called Pollux, was so advanced it allowed to gather more data than in all previous (26) experiments. "NNSA Conducts Pollux Subcritical Experiment at Nevada National Security Site," Press Release, NNSA, December 6, 2012, <http://nnsa.energy.gov/mediaroom/pressreleases/pollux120612>.

<sup>329</sup> "Cygnus: A Dual-beam X-Ray Source," *One Voice*, February 2014, [http://www.nv.doe.gov/library/publications/OneVoice/OneVoice\\_vol02\\_Iss05.pdf](http://www.nv.doe.gov/library/publications/OneVoice/OneVoice_vol02_Iss05.pdf) and "NvE Top Ten for 2014," *One Voice*, January 2014, [www.nv.doe.gov/library/publications/OneVoice/OneVoice\\_vol02\\_Iss04.pdf](http://www.nv.doe.gov/library/publications/OneVoice/OneVoice_vol02_Iss04.pdf).

<sup>330</sup> "Declaration Signed by the UK and France Following the UK-France Summit 2010 in London on 2 November 2010," [www.number10.gov.uk/news/uk%20%93france-summit-2010-declaration-on-defence-and-security-co-operation/](http://www.number10.gov.uk/news/uk%20%93france-summit-2010-declaration-on-defence-and-security-co-operation/)

<sup>331</sup> Technology Development Centre is under construction at Aldermaston in the UK, and France is developing the Épure radiographic and hydrodynamics facility at Valduc.

Subcritical tests and lab experiments are not banned by the CTBT, but remain controversial as they can help NWS modernize their weapons without explosive testing.<sup>332</sup> At the same time, NWS argue that such tests are used to ensure the safety and security of warheads rather than development of new advanced nuclear warheads.

**Action 12: All states that have ratified the Comprehensive Nuclear-Test-Ban Treaty recognize the contribution of the conferences on facilitating the entry into force of that treaty, of the measures adopted by consensus at the Sixth Conference on Facilitating the entry into force of the Comprehensive Nuclear-Test-Ban Treaty, held in September 2009, and commit to report at the 2011 conference on progress made towards the urgent entry into force of that treaty.**

**Action 13: All States that have ratified the Comprehensive Nuclear-Test-Ban Treaty undertake to promote the entry into force and implementation of that Treaty at the national, regional and global levels.**

Actions 12 and 13 overlap greatly, as both refer to states' efforts in support of entry-into-force of the CTBT. Action 12 is more specific with its reference to the final declaration of the Sixth Article XIV Conference, but can still be combined with Action 13. Even though both items refer only to states that have ratified the CTBT, signatory states also attend Article XIV Conferences and undertake to promote the treaty's entry-into-force. Specific reference to the ratifying states in the Action Plan is indeed regressive in comparison to the CTBT conference documents.

***Indicator 12.1. States participate in Article XIV conferences and are represented at a high level***

Yes, mostly

All five NWS took part in the eighth Article XIV conference in September 2013 in New York. All were officially represented at the levels of deputy foreign minister, director-general, or a permanent representative. According to the CTBTO Preparatory Commission, representatives of 88 ratifying and signatory states attended the eighth Article XIV conference, and 52 of them delivered statements.<sup>333</sup> Of the Annex 2 states parties to the NPT, only Iran did not deliver a statement, though it did attend the conference.

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<sup>332</sup> As early as 1998, a large group of anti-nuclear activists signed a petition calling on the United States to declare a moratorium on subcritical testing. See Federation of American Scientists, [www.fas.org/nuke/control/ctbt/news/980716-sub.htm](http://www.fas.org/nuke/control/ctbt/news/980716-sub.htm). The first subcritical test conducted during President Obama's term in office (in September 2010) drew criticism as contradicting his vision of achieving a world without nuclear weapons.

<sup>333</sup> "Urgent Calls by International Leaders to Bring Test Ban Treaty into Force," CTBTO Press Release, September 23, 2011, [www.ctbto.org/press-centre/press-releases/2011/urgent-calls-by-international-leaders-to-bring-test-ban-treaty-in-force/?Fsize=atextonly%3D1](http://www.ctbto.org/press-centre/press-releases/2011/urgent-calls-by-international-leaders-to-bring-test-ban-treaty-in-force/?Fsize=atextonly%3D1), and Statements in Alphabetical Order, [www.ctbto.org/the-treaty/article-xiv-conferences/2013-conference-on-facilitating-the-entry-into-force-of-the-comprehensive-nuclear-test-ban-treaty-united-nations-new-york-usa/friday-27-september-2013/](http://www.ctbto.org/the-treaty/article-xiv-conferences/2013-conference-on-facilitating-the-entry-into-force-of-the-comprehensive-nuclear-test-ban-treaty-united-nations-new-york-usa/friday-27-september-2013/). Information on the number of attending states courtesy of the CTBTO Preparatory Commission.

***Indicator 12.2: States report on activities undertaken to implement measures contained in the final declaration of the sixth Article XIV conference and other efforts in support of entry-into-force of the CTBT***

**Yes, partially**

The sixth Conference on Facilitating the Entry-Into-Force of the CTBT took place in September 2009 and resulted in the adoption of a final declaration whereby states undertook to implement measures to promote the treaty's entry-into-force. The 10-point list of measures includes the encouragement of further signatures and ratifications, selection of coordinators to promote cooperation, organization of regional seminars to increase awareness of the treaty, and other activities.<sup>334</sup> It is beyond the scope and capacity of this project to monitor and assess all relevant states' implementation of these measures. However, ahead of the eighth Article XIV conference, the CTBTO assembled a summary document on the activities reported under Measure I of the Final Declaration of the 2011 Conference on Facilitating the Entry into Force of the CTBT for the period September 2011-August 2013, which requests the CTBTO to collect inputs on outreach activities from the ratifying and signatory states.<sup>335</sup> The document indicated that 44 states had submitted information on their activities to the CTBTO, up from 30 that contributed to the previous report. Many of these states reported that they took every opportunity to promote the treaty's entry-into-force in bilateral interactions and through statements at multilateral fora.<sup>336</sup>

***Indicator 13.1. States ensure full payment of dues to CTBTO Preparatory Commission***

**Yes, mostly**

Regular contributions to the CTBTO Preparatory Commission budget are assessed at the beginning of a calendar year. As of April 7, 2014, 46 states had paid their contributions for 2014 in full. All NWS with the exception of the United States had paid in full for 2014 at the time of this writing. Seventeen states had partially paid their current year contributions, including the United States; 44 had not paid their contributions for 2014; and 75 states had their voting rights suspended for past dues.<sup>337</sup> The year-end collection results for 2013, however, were strong, with the collection rates amounting to 96.4 percent for the US dollar portion and 96.3 percent for the Euro portion, up from 92.7 percent for the US dollar and 93.3 percent for the Euro in 2012.<sup>338</sup>

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<sup>334</sup> Final Declaration and Measures to Promote the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty, Conference on Facilitating the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty, September 24, 2009, New York.

<sup>335</sup> Please see CTBT-Art.XIV/20131/4/Rev.1, September 619, 20131.

[http://www.ctbto.org/fileadmin/user\\_upload/Art\\_14\\_2013/CTBT\\_Art\\_XIV\\_2013\\_4.pdf](http://www.ctbto.org/fileadmin/user_upload/Art_14_2013/CTBT_Art_XIV_2013_4.pdf)

<sup>336</sup> Ibid.

<sup>337</sup> Latest status of payments available at the CTBTO website, <http://ctbto.org/member-states/member-states-payments/>.

<sup>338</sup> CTBTO Member States' Payments as at 31 December 2013, available at:

[http://ctbto.org/fileadmin/user\\_upload/treasury/53\\_31\\_Dec\\_2013\\_Member\\_States\\_Payments.pdf](http://ctbto.org/fileadmin/user_upload/treasury/53_31_Dec_2013_Member_States_Payments.pdf), and CTBTO Member States' Payments as at 31 December 2012, available at:

[http://www.ctbto.org/fileadmin/user\\_upload/treasury/31Dec2012\\_Member\\_States\\_payments.pdf](http://www.ctbto.org/fileadmin/user_upload/treasury/31Dec2012_Member_States_payments.pdf). Annual Report 2012, Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, CTBT/ES/2012/5, March 1, 2013, p. 63.

In addition to the regular budget, some states provide voluntary contributions to the CTBTO, and in 2012, the Preparatory Commission’s website noted that such contributions had “increased significantly” since 2010, certainly a positive development.<sup>339</sup>

Between September 2012 and August 2013, the United States provided \$7.5 million in funding, supporting 25 projects focused on accelerating the development of the CTBT verification regime.<sup>340</sup> In October 2012, the United States pledged approximately \$1 million worth of equipment as a contribution to support on-site inspection build-up exercises and the Integrated Field Exercise in 2014.<sup>341</sup> Between September 2011 and August 2012, the United States provided three contributions: \$8.9 million, \$12 million, and \$25.5 million, also towards the improvement of monitoring and verification.<sup>342</sup>

On January 20, 2014, CTBTO announced that Japan had made a new voluntary contribution of \$455,000 to further enhance the verification system and to support activities of the recently established Group of Eminent Persons (GEM).<sup>343</sup> Earlier, in February 2012, Japan made a voluntary contribution of \$737,000 to improve the “organization’s capabilities to monitor the dispersion of radioactivity in the atmosphere.”<sup>344</sup>

In November 2012, the European Union approved a contribution of almost 5.2 million Euro (\$6.7 million) in support of the CTBTO’s verification regime. The press release underscored in particular that the contribution was meant to “assist developing countries to participate actively in this multilateral verification effort.”<sup>345</sup> This contribution follows the EU’s 5.3 million Euro contribution made in July 2010.<sup>346</sup>

Many other countries provide smaller voluntary contributions and cosponsor outreach activities, workshops, and trainings organized jointly with the CTBTO.<sup>347</sup>

#### **Action 14: The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization is to be encouraged to fully develop the verification regime for the Comprehensive Nuclear-Test-Ban Treaty, including early completion and provisional operationalization of the international monitoring system (IMS) in**

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<sup>339</sup> See CTBTO website, [www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/](http://www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/).

<sup>340</sup> Ibid.

<sup>341</sup> Ibid., p. 23.

<sup>342</sup> See CTBTO website, “Member States’ activities to promote entry into force”, [http://www.ctbto.org/fileadmin/user\\_upload/Art\\_14\\_2013/CTBT\\_Art\\_XIV\\_2013\\_4.pdf](http://www.ctbto.org/fileadmin/user_upload/Art_14_2013/CTBT_Art_XIV_2013_4.pdf), p.22.Ibid.

<sup>343</sup> “Japan Makes Voluntary Contribution in Support of the Verification Regime and GEM,” CTBTO Press Release, January 20, 2014, <http://www.ctbto.org/press-centre/press-releases/2014/japan-makes-voluntary-contribution-in-support-of-the-verification-regime-and-gem/>

<sup>344</sup> “Japan Makes Voluntary Contribution to CTBTO to Enhance Tracking of Radioactivity,” CTBTO Press Release, February 27, 2012, [www.ctbto.org/press-centre/press-releases/2012/japan-makes-voluntary-contribution-to-ctbto-to-enhance-tracking-of-radioactivity/](http://www.ctbto.org/press-centre/press-releases/2012/japan-makes-voluntary-contribution-to-ctbto-to-enhance-tracking-of-radioactivity/).

<sup>345</sup> “European Union Makes Voluntary Contribution of over Five Million Euros,” CTBTO website, November 14, 2012, [www.ctbto.org/press-centre/press-releases/2012/european-union-makes-voluntary-contribution-of-over-five-million-euros/](http://www.ctbto.org/press-centre/press-releases/2012/european-union-makes-voluntary-contribution-of-over-five-million-euros/).

<sup>346</sup> See CTBTO website, [www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/](http://www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/).

<sup>347</sup> Information courtesy of CTBTO Preparatory Commission. Full list of states that provide voluntary contributions was not available.

**accordance with the mandate of the Preparatory Commission, which should, upon entry into force of that Treaty, serve as an effective, reliable, participatory and non-discriminatory verification system with global, and provide assurance of compliance with that Treaty.**

***Indicator 14.2. New IMS monitoring stations are installed, or progress is made on the installation of IMS stations that began earlier***

**Yes**

As of early 2014, 46 states have concluded facility agreements with the CTBTO Preparatory Commission, and eight of them (with Cameroon, Cape Verde, Chile, Italy, Kuwait Oman, Portugal, and Sri Lanka) have not yet entered into force.<sup>348</sup> Austria signed and ratified a new agreement on September 17, 2013. Kuwait and Chile signed new agreements on September 17, 2013, and February 21, 2014, respectively. Tunisia's facility agreement was ratified on February 14, 2014, and Israel's facility agreement entered into force on February 20, 2014. Uganda signed and entered into force a new agreement in 2012.<sup>349</sup> According to the CTBTO Preparatory Commission, facility agreements need to be signed with 44 more states.<sup>350</sup>

The number of certified IMS stations went up from 255 in April 2010 to 278 by April 2014, making the IMS system 85 percent complete.<sup>351</sup> As of April 8, 2014, there were also 18 stations undergoing testing, 20 under construction, and 21 planned. This brings the IMS total to 337.<sup>352</sup> No new facilities began construction in 2013. Twenty-one more facilities are planned to be located in Central African Republic, China, Ecuador, Egypt, French Guiana, Iran, Nepal, Pakistan, Russia, South Africa, United Kingdom (Antarctica), and the United States (Antarctica). Another four facilities, originally planned to be located in India, have not been assigned new locations.<sup>353</sup>

As of January 1, 2014, the CTBTO has started receiving data from IMS stations hosted by China. China hosts 11 IMS stations: 6 seismic, 3 radionuclide (of which 2 are noble gas-capable), and 2 infrasound stations. With the installation of the infrasound station at Kunming in Southern China expected for 2014, all but a second infrasound station in Beijing will be complete. Until last year, none of these stations had been connected to the CTBTO's International Data Centre (IDC) in Vienna.<sup>354</sup> New CTBTO Executive Secretary Lassina Zerbo commended China's decision to begin sending data to the IDC and noted that, "The Chinese stations' data significantly enhances our system's global coverage."<sup>355</sup>

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<sup>348</sup> "Facility Agreements," CTBTO website, [www.ctbto.org/member-states/facility-agreements/](http://www.ctbto.org/member-states/facility-agreements/).

<sup>349</sup> "Uganda Signs Facility Agreement," CTBTO website, June 15, 2012, [www.ctbto.org/press-centre/highlights/2012/uganda-signs-facility-agreement/](http://www.ctbto.org/press-centre/highlights/2012/uganda-signs-facility-agreement/).

<sup>350</sup> "Facility Agreements," CTBTO website, [www.ctbto.org/member-states/facility-agreements/](http://www.ctbto.org/member-states/facility-agreements/). "Facility Agreements," CTBTO website.

<sup>351</sup> See CTBTO website, [www.ctbto.org/map/](http://www.ctbto.org/map/), use the International Monitoring System tab on the right for exact numbers.

<sup>352</sup> CTBTO website, [www.ctbto.org/map/](http://www.ctbto.org/map/), Click on "show today" on the timeline to see current information in the right-hand sidebar.

<sup>353</sup> Information courtesy of CTBTO.

<sup>354</sup> Ibid.

<sup>355</sup> "Chinese Monitoring Stations Now Sending Data," CTBTO Press Release, January 6, 2014, <http://www.ctbto.org/press-centre/press-releases/2014/chinese-monitoring-stations-now-sending-data/>.

CTBTO is also continuing preparations for the Integrated Field Exercise (IFE) to be held in Jordan in late 2014.<sup>356</sup> This will be the second IFE, designed to “test and train the organization’s on-site inspection capabilities in an all-encompassing way.”<sup>357</sup> The first such exercise was conducted in Kazakhstan in 2008.<sup>358</sup>

**Action 15: All States agree that the Conference on Disarmament should, within the context of an agreed, comprehensive and balanced programme of work, immediately begin negotiation of a treaty banning the production of fissile material for use in nuclear weapons or other nuclear explosive devices in accordance with the report of the Special Coordinator of 1995 (CD/1299) and the mandate contained therein. Also in this respect, the Review Conference invites the Secretary-General of the United Nations to convene a high-level meeting in September 2010 in support of the work of the Conference on Disarmament.**

***Indicator 15.1. The ad hoc committee to negotiate a fissile material treaty is established at the CD***

No

The Conference on Disarmament remained locked in a paralysis during the reporting period, unable to adopt a program of work (see Action 6, Indicator 6.1).

***Indicator 15.2. The ad hoc committee begins work; makes progress in negotiating the treaty***

No

***Indicator 15.3. The UN Secretary-General convenes a high-level meeting in support of the work of the CD***

Yes

Please see the 2012 and 2013 Monitoring Reports (Actions 7 and 15).

At the 2012 session of the UNGA First Committee, the draft resolution “Treaty Banning the Production of Fissile Material for Nuclear Weapons and Other Nuclear Explosive Devices,” sponsored by Canada, was adopted by a vote of 148 in favor, one against (Pakistan), and 20 abstentions. The adopted resolution requested the UN Secretary-General to seek states’ views on a fissile material treaty and its potential elements and submit a report to the next session of the General Assembly in 2013. The resolution further requested the Secretary-General to establish a 25-member Group of Governmental Experts (GGE) to “make recommendations on possible elements” of a treaty banning the production of fissile material for nuclear weapons. The Group is

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<sup>356</sup> See CTBTO website, <http://www.ctbto.org/specials/integrated-field-exercise-2014/>.

<sup>357</sup> “CTBTO Member States Take Test-Ban Verification to the Next Level,” CTBTO Press Release, [www.ctbto.org/press-centre/press-releases/2011/ctbto-member-states-take-test-ban-verification-to-the-next-level/?textonly=1](http://www.ctbto.org/press-centre/press-releases/2011/ctbto-member-states-take-test-ban-verification-to-the-next-level/?textonly=1).

<sup>358</sup> “Integrated On-Site Inspection Exercise in Kazakhstan Reaches a Successful Conclusion,” CTBTO Press Release, October 9, 2008, <http://wwwtest.ctbto.org/press-centre/press-releases/2008/integrated-on-site-inspection-exercise-in-kazakhstan-reaches-a-successful-conclusion/>.

to meet for a total of four two-week sessions in Geneva in 2014 and 2015.<sup>359</sup> The GGE began its first session on March 31, 2014. The Group's experts come from the following states: Argentina, Australia, Brazil, Canada, China, Czech Republic, Egypt, Finland, France, Germany, Hungary, India, Italy, Indonesia, Japan, Kazakhstan, Mexico, Netherlands, Nigeria, Republic of Korea, Russian Federation, South Africa, Ukraine, United Kingdom, and the United States.<sup>360</sup>

**Action 16: The nuclear weapon States are encouraged to commit to declare, as appropriate, to the International Atomic Energy Agency (IAEA) all fissile material designated by each of them as no longer required for military purposes and to place such material as soon as practicable under IAEA or other relevant international verification and arrangements for the disposition of such material for peaceful purposes, to ensure that such material remains permanently outside military programmes.**

***Indicator 16.1. States submit declarations/reports to the IAEA on stocks of fissile material declared as no longer needed for military purposes***

**China**

**No**

China has not declared any plutonium or HEU in excess of defense needs.

**France**

**No**

France has not declared its stocks of fissile material no longer required for military purposes. The IPFM estimates that the “current stock of military-related weapon-grade HEU” in France is between 20 and 32 metric tons, while the stockpile of weapon-grade plutonium is 5-7 metric tons.<sup>361</sup>

**Russia**

**No**

Russia does not declare excess material to the IAEA, but it has designated 34 metric tons of plutonium in excess of military needs for disposition (recycling) through the use in reactor fuel.<sup>362</sup> (See Indicator 16.3.)

**United Kingdom**

**Yes, partially (no additions during reporting period)**

According to the Institute for Science and International Security (ISIS), the United Kingdom includes the material declared in excess of military requirements in its reporting under

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<sup>359</sup> “Treaty Banning the Production of Fissile Material for Nuclear Weapons or Other Nuclear Explosive Devices,” Resolution adopted by the First Committee of the UN General Assembly, A/C.1/67/L.41, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L41.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L41.pdf).

<sup>360</sup> Website of the United Nations Office at Geneva, [http://unog.ch/80256EE600585943/\(httpPages\)/B8A3B48A3FB7185EC1257B280045DBE3?OpenDocument](http://unog.ch/80256EE600585943/(httpPages)/B8A3B48A3FB7185EC1257B280045DBE3?OpenDocument).

<sup>361</sup> “Countries: France,” International Panel on Fissile Materials, <http://fissilematerials.org/countries/france.html>

<sup>362</sup> See David Albright and Christina Walrond, “Civil Separated Plutonium in the INF CIRC/549 States – Taking Stock,” ISIS, September 17, 2010, <http://isis-online.org/isis-reports/detail/civil-separated-plutonium-in-the-inf-circ-549-states-taking-stock/>

INFCIRC/549, as part of an overall stock of civil unirradiated plutonium stored at reprocessing plants.<sup>363</sup> The United Kingdom has previously declared 4.4 metric tons of plutonium in excess of defense purposes.<sup>364</sup> No additions have been made to this inventory during the reporting period. In 2006, the UK Ministry of Defence released a paper on its historic production and use of HEU for military purposes and declared the HEU stock, as of March 2002, as 21.86 metric tons.<sup>365</sup> None of this material has been declared in excess of defense needs.

## United States

### Yes (no additions during reporting period)

The United States has previously declared to the IAEA 61.5 metric tons of plutonium in excess of national security needs.<sup>366</sup> No additional material was declared during the reporting period. According to the US reporting under INFCIRC/549, as of December 31, 2012, 4.6 metric tons of this excess plutonium were held in mixed oxide (MOX) fuel or “other fabricated products,” 7.7 metric tons were held in spent fuel, and 4.5 metric tons had been disposed to waste. The bulk of the excess plutonium, 44.4 metric tons, is “held elsewhere.”<sup>367</sup> Taking into account the decay and disposal of material to waste, by end of 2012 the remaining amount of plutonium in excess of military needs was 56.8 metric tons.<sup>368</sup>

The United States declared 174 metric tons of HEU in excess of defense needs in 1994 and in 2005 announced that it would remove another 200 metric tons of HEU from use for nuclear weapons, for a total of 374 metric tons. Of the 200 metric tons, 20 metric tons were designated for use in space and research reactors and 160 metric tons for use in naval reactors; the rest was to be downblended.<sup>369</sup> The US Navy further judged that of the 160 metric tons of HEU designated for naval reactors, 32 metric tons were not usable for that purpose, and that material was also designated for downblending.<sup>370</sup> It appears that the total amount of HEU slated for downblending was 226 metric tons, 120 metric tons of which the NNSA reportedly had downblended by 2011.<sup>371</sup> Currently, the NNSA website variably cites 183 or 186 metric tons as slated for downblending.<sup>372</sup> HEU is not included in the US reports to the IAEA under INFCIRC/549.

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<sup>363</sup> Ibid.

<sup>364</sup> UK Strategic Defence Review, 1998, Fissile material management.

<sup>365</sup> “Historic Accounting for UK Defence Highly Enriched Uranium,” Report by the Ministry of Defence, March 2006.

<sup>366</sup> “Annual Figures for Holding of Civil Unirradiated Plutonium,” Communication from the United States of America, September 20, 2011, INFCIRC/549/Add.6/14.

<sup>367</sup> Annual Figures for Holding of Civil Unirradiated Plutonium,” Communication from the United States of America, April 2, 2014, INFCIRC/549/Add.6/16.

<sup>368</sup> See Pavel Podvig, “US Civilian Plutonium Holdings in December 2012,” IPFM blog, April 2, 2014, [http://fissilematerials.org/blog/2014/04/us\\_civilian\\_plutonium\\_hol.html](http://fissilematerials.org/blog/2014/04/us_civilian_plutonium_hol.html).

<sup>369</sup> “DOE to Remove 200 Metric Tons of Highly Enriched Uranium from US Nuclear Weapons Stockpile,” US Department of Energy, November 7, 2005, <http://energy.gov/articles/doe-remove-200-metric-tons-highly-enriched-uranium-us-nuclear-weapons-stockpile>; “Demonstrating the U.S. Commitment to Nuclear Disarmament,” Presentation by Thomas D’Agostino, Administrator, National Nuclear Security Administration, October 18, 2011, <http://nnsa.energy.gov/sites/default/files/nnsa/inlinefiles/Demonstrating%20the%20U.S.%20Commitment%20to%20Nuclear%20Disarmament.pdf>.

<sup>370</sup> Steven Aftergood and Frank N. von Hippel, “The US Highly Enriched Uranium Declaration: Transparency Deferred but not Denied,” *Nonproliferation Review*, Vol. 14, no. 1 (March 2007), <http://cns.miis.edu/npr/pdfs/141aftergood.pdf>.

<sup>371</sup> “Amended Record of Decision: Disposition of Surplus Highly Enriched Uranium Environmental Impact Settlement,” National Nuclear Security Administration, US Department of Energy, April 29, 2011.

<sup>372</sup> One of the documents also refers to 209 metric tons of HEU declared in excess, a number cited in the 2013 Monitoring Report. “National Nuclear Security Administration’s Contracts for the Down-Blending of Highly Enriched Uranium,” Audit Report: OAS-L-10-08, August 23, 2010, <http://energy.gov/ig/downloads/audit-report-oas-l-10-08>; NNSA, US HEU

***Indicator 16.2. Material taken out of military programs is placed under IAEA safeguards or other international verification arrangements***

**China**

**No**

China has not declared any material in excess of defense needs and did not place it under the IAEA safeguards. As of 2009, the only facilities under IAEA safeguards in China were the Qinshan Nuclear Power Plant, the HTR-10, and the Hanzhong Enrichment Plant.<sup>373</sup> These are all civilian nuclear facilities. No new facilities or materials were declared and placed under IAEA safeguards during the reporting period.

**France**

**No**

France has not declared any material in excess of defense needs to the IAEA. Its civilian uranium enrichment plants are subject to the IAEA safeguards.<sup>374</sup>

**UK**

**No change**

**(HEU—No safeguards; Pu—regional safeguards)**

The 1998 SDR stated that all stocks of military HEU would remain outside of safeguards, and material no longer needed for nuclear weapons would be used for the naval propulsion program.<sup>375</sup> There does not appear to have been a change in this policy during the reporting period.

Plutonium declared in excess of military needs has been placed under the safeguards monitored by the European Atomic Energy Community (EURATOM) and remained so during the reporting period, 2010-2013.

In July 2011, when asked whether “any multilateral verification provisions have been put in place in relation to the warhead reduction programme on Vanguard class submarines,” UK Secretary of State for Defense Liam Fox responded in the negative.<sup>376</sup>

**Russia**

**No**

“Megatons to Megawatts,” a US-Russian surplus HEU disposition program, was not subject to IAEA safeguards, but was monitored bilaterally. Safeguards are also not applied to plutonium declared in excess of defense needs, but Russia, the United States, and the IAEA are currently working out a verification arrangement for the Plutonium Management and Disposition Program (PMDA). However, with the future of MOX facility in the United States in question, it is unclear how implementation of the PMDA will proceed (see Indicator 16.3 and Action 7).

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Disposition Program,” NNSA, <http://nnsa.energy.gov/aboutus/ourprograms/dnn/fmd/heu>; “US Uranium Down-Blending Activities: Fact Sheet,” NNSA, March 23, 2012, <http://nnsa.energy.gov/mediaroom/factsheets/usuraniumdownblending>.

<sup>373</sup> Facilities under Agency Safeguards or Containing Safeguarded Material on 31 December 2009, IAEA Annual Report, [www.iaea.org/Publications/Reports/Anrep2009/table\\_a25.pdf](http://www.iaea.org/Publications/Reports/Anrep2009/table_a25.pdf).

<sup>374</sup> “Global Fissile Material Report 2011,” IPFM, p. 32.

<sup>375</sup> UK Strategic Defence Review, 1998.

<sup>376</sup> House of Commons, Written Answers to Questions, Trident Missiles, Question from Paul Flynn, 19 July 2011, Column 869W, [www.acronym.org.uk/parliament/1109.htm#warheads](http://www.acronym.org.uk/parliament/1109.htm#warheads).

## **United States**

**Yes, partially**

Between 1993 and 1998, the United States had placed 12 tons of fissile material under voluntary IAEA safeguards.<sup>377</sup> In 1999-2006, the United States downblended 50 metric tons of its surplus HEU, with the downblending facility being under the IAEA safeguards.<sup>378</sup>

Information on what portion of fissile material declared in excess of defense needs is currently under the IAEA safeguards is not readily available. According to the NNSA and the US Nuclear Regulatory Commission, about 300 US facilities are eligible for the IAEA safeguards implementation, though only one facility—the K Area Material Storage Vault at Savannah River National Laboratory—is currently under safeguards.<sup>379</sup> Some of the surplus plutonium is stored at this facility. According to the 2010 IPFM report, much of the plutonium declared in excess “is still in warheads or in pits” stored at a site where warhead assembly and disassembly takes place.<sup>380</sup> This material, therefore, cannot be under the IAEA safeguards at this point

### ***Indicator 16.3. Material disposition measures are undertaken, planned, or in progress; IAEA is involved in verification***

#### **China**

**No**

There are no known material disposition programs implemented by China.

#### **France**

**No**

There are no known material disposition programs implemented by France.

#### **Russia**

**Yes**

Russia has former weapons HEU and plutonium disposition programs either in progress or planned.

Under the Protocol to the US-Russian Agreement on the Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation (PMDA) signed in April 2010, “the Russian Federation will dispose of 34 tons of excess weapons-grade plutonium through irradiation in a BN-800 reactor.”<sup>381</sup> The Amendment of the PMDA (originally signed in 2000) “reduces the agreed rate of plutonium disposition from no less than two

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<sup>377</sup> Agreement Between the United States of America and the IAEA for the Application of Safeguards in the US, U.S. Department of State website, [www.state.gov/t/isn/5209.htm](http://www.state.gov/t/isn/5209.htm). In 1993, HEU at the Y-12 Plant in Oak Ridge, Tennessee, plutonium at Hanford Site, Washington, and HEU at DOE storage facility in Savannah River, South Carolina were placed under IAEA safeguards. Safeguards in the United States, Naval Treaty Implementation Program, “Ending the Production of Fissile Material for Nuclear Weapons,” Institute for Science and International Security, <http://isis-online.org/section-7/>.

<sup>378</sup> “Management of High Enriched Uranium for Peaceful Purposes: Status and Trends,” International Atomic Energy Agency, IAEA-TECDOC-1452, June 2005, p. 18.

<sup>379</sup> NPT Compliance, National Nuclear Security Administration, [www.nnsa.energy.gov/ourmission/managingthestockpile/nptcompliance](http://www.nnsa.energy.gov/ourmission/managingthestockpile/nptcompliance); International Safeguards, US Nuclear Regulatory Commission, [www.nrc.gov/about-nrc/ip/intl-safeguards.html](http://www.nrc.gov/about-nrc/ip/intl-safeguards.html)

<sup>380</sup> “Global Fissile Material Report 2010,” IPFM, p. 37.

<sup>381</sup> Para 104, 2010 NPT Review Conference National Report, Russian Federation.

tons per year to no less than 1.3 tons per year.”<sup>382</sup> The disposition of material has not commenced yet and is planned to start in 2018. Russia, the United States, and the IAEA have been working out an arrangement for the verification of PMDA by the Agency, though progress appears to have stalled (see Action 17).

Under the US-Russia “Megatons to Megawatts” program, Russia has converted 500 tons of HEU taken out of dismantled warheads into LEU that was then sold to USEC (US Enrichment Corporation) and used for civilian purposes. By the time of the 2010 NPT RevCon, Russia had downblended “over 350 tons” of HEU, according to the Russian report to the Conference.<sup>383</sup> The program was not subject to verification by the IAEA. “Megatons to Megawatts” program was officially completed in 2013, and Russia has not announced any plans for future such programs.<sup>384</sup>

According to IPFM, another program, the Material Conversion and Consolidation project, planned to downblend 2 metric tons of surplus Russian HEU in 2013, in addition to 14.8 metric tons already blended down.<sup>385</sup> No updates on the project’s implementation were available at the time of this writing.

## **United Kingdom**

### **No—Pu; Yes—HEU**

According to the 2011 IPFM Global Fissile Material Report, the United Kingdom so far has not begun to dispose of stocks of separated plutonium declared in excess of military programs.<sup>386</sup> According to the Nuclear Decommissioning Authority’s (NDA) plutonium strategic position paper released in February 2011, the United Kingdom is considering several options for the disposition of plutonium. This position paper, together with NDA plutonium credible options policy paper revised and updated in 2011, lists the following options for dealing with plutonium: 1) continued long term storage (prior to disposal), 2) reuse as fuel followed by disposal, and 3) prompt immobilization and disposal as soon as practicable.<sup>387</sup> In July 2012, the NDA was reported to be examining a feasibility study by General Electric Hitachi Nuclear Energy on the possible use of sodium-cooled reactors (Prism) for plutonium disposition through fuel manufacture.<sup>388</sup>

On disposition of HEU, the IPFM estimates that by 2011, about 0.7 tons of HEU may have been consumed as fuel in UK nuclear-powered submarines, leaving an estimated stockpile of about 21.2 tons of HEU (down from about 21.9 tons HEU declared in 2006).<sup>389</sup> None of this material has been designated in excess of defense needs.

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<sup>382</sup> “Global Fissile Material Report 2011,” IPFM, p. 17.

<sup>383</sup> Para 103, 2010 NPT Review Conference National Report.

<sup>384</sup> “Global Fissile Material Report 2011,” IPFM, p. 8

<sup>385</sup> Countries: Russia, IPFM Blog, <http://fissilematerials.org/countries/russia.html>

<sup>386</sup> “Global Fissile Material Report 2011,” IPFM, p. 3

<sup>387</sup> “Plutonium: Credible Options Analysis (Gate A0,” UK Nuclear Decommissioning Authority, 2010, [www.nda.gov.uk/documents/upload/Plutonium-Credible-Options-Analysis-redacted-2010.pdf](http://www.nda.gov.uk/documents/upload/Plutonium-Credible-Options-Analysis-redacted-2010.pdf). “Plutonium Strategy: Current Position Paper,” UK Nuclear Decommissioning Authority, February 2011, p. 6, [www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf](http://www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf)

<sup>388</sup> “Has Prism Cracked the Plutonium Problem?” *Professional Engineering*, July 31, 2012, <http://profeng.com/cover-story/has-prism-cracked-the-plutonium-problem>

<sup>389</sup> “Global Fissile Material Report 2011,” IPFM, p. 10.

## **United States**

### **Yes**

In December 2010, the United States reported that a small amount of the 61.5 metric tons of excess plutonium it declared would be disposed of at the Waste Isolation Pilot Plant (WIPP) in New Mexico, while 34 metric tons would be used for production of MOX fuel, irradiated in civilian reactors and disposed of as spent fuel.<sup>390</sup> Construction of a MOX fuel production facility had begun in Savannah River, South Carolina, but was placed on “cold standby” in early 2014 due to cost considerations. Experts judge that it is unlikely that the construction will resume.<sup>391</sup> In the meantime, NNSA has been converting the plutonium taken out of warhead pits into plutonium oxide, as a feedstock for the future MOX production. In 2011-12, NNSA produced over 400 kg of plutonium oxide, exceeding its target production in 2012.<sup>392</sup> NNSA is also conducting an assessment of alternatives for disposing of weapons-grade plutonium and, in light of the changing MOX facility plans, moved the deadline for the study to April 30, 2014.<sup>393</sup>

The United States is also downblending HEU taken out of military stockpiles. There are four ongoing projects within the framework of surplus HEU disposition (the fifth completed in 2006). NNSA’s website indicates that 143 metric tons have been converted to LEU.<sup>394</sup> It is not clear how much of this material was converted since May 2010.

In August 2011, NNSA announced that part of the LEU obtained by downblending surplus HEU is available “for use as commercial nuclear power fuel” as part of the American Assured Fuel Supply (AFS) program, which establishes backup fuel supply in case of disruptions for countries that forego national uranium enrichment.<sup>395</sup> A total of 17.4 metric tons of surplus HEU was designated for the AFS, and its downblending was completed in December 2012.

### ***Indicator 16.4. States that have not yet done so, declare their intent to report fissile material in excess of military requirements to the IAEA***

#### **China**

##### **No**

No such intent announced during the reporting period.

#### **France**

##### **No**

No such intent announced during the reporting period.

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<sup>390</sup> IAEA INFCIRC/549/Add.6/13, December 15, 2010,  
[www.iaea.org/Publications/Documents/Infocircs/2010/infocirc549a6\\_13.pdf](http://www.iaea.org/Publications/Documents/Infocircs/2010/infocirc549a6_13.pdf)

<sup>391</sup> Pavel Podvig, “United States Puts MOX Fuel Fabrication Facility on Cold Standby,” IPFM Blog, March 5, 2014, [http://fissilematerials.org/blog/2014/03/united\\_states\\_puts\\_mox\\_fu.html](http://fissilematerials.org/blog/2014/03/united_states_puts_mox_fu.html).

<sup>392</sup> “NNSA Completes Milestones for Initial Steps in Plutonium Disposition,” NNSA press release, November 16, 2012.

<sup>393</sup> Douglas Guarino, “NNSA Sets Spring 2014 as Target for Plutonium-Disposition Decision,” *Global Security Newswire*, October 9, 2013, [www.nti.org/gsn/article/nnsa-sets-spring-2014-target-plutonium-disposition-decision/](http://www.nti.org/gsn/article/nnsa-sets-spring-2014-target-plutonium-disposition-decision/).

<sup>394</sup> “Surplus US Highly Enriched Uranium (HEU) Disposition,” National Nuclear Security Administration website, [http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/programoffices/fissilematerialsdisposition/surplusheu\\_dispositio](http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/programoffices/fissilematerialsdisposition/surplusheu_dispositio)

<sup>395</sup> “DOE, NNSA Announce Availability of Reserve Stockpile of Nuclear Power Reactor Fuel Material from Down-blending of Surplus Weapons-Usable Uranium,” NNSA press release, August 18, 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/doennsaafs81811>

## Russia

### No

During the reporting period, Russia did not indicate an intention to formally declare surplus material to the IAEA.

The United Kingdom and United States had previously declared excess material to the IAEA (see Indicator 16.1.).

**Action 17: In the context of action 16, all States are encouraged to support the development of appropriate legally binding verification arrangements, within the context of IAEA, to ensure the irreversible removal of fissile material designated by each nuclear-weapon State as no longer required for military purposes.**

***Indicator 17.1. Development of relevant verification measures and agreements is taking place, with IAEA participation***

### Yes, partial progress

In the context of the Plutonium Management and Disposition Agreement (PMDA) between the United States and Russia (see Action 16), the two states have invited the IAEA to verify the disposition of plutonium declared in excess of military needs.<sup>396</sup> The joint letter from the United States and Russia to the IAEA sent in August 2010 requested “that the IAEA engage in all necessary efforts to undertake this important verification role, with the goal of preparing the necessary legally-binding verification agreements in 2011.”<sup>397</sup> The PMDA protocol (between Russia and the United States) entered into force in July 2011. According to the Defense Treaty Inspection Readiness Program, “as of July 2011, the two countries and the IAEA [were] making progress on appropriate IAEA verification measures for each country’s disposition program.”<sup>398</sup> However, in March 2012, an official indicated that the conclusion of agreement on verification was delayed because of conditions put forth by one of the parties.<sup>399</sup> The verification arrangement, previously expected to be presented to the Board of Governors in 2012, was not completed during the reporting period.

No multilateral arrangements, involving other NWS and NNWS, are being developed in the context of the IAEA.

**Action 18: All States that have not yet done so are encouraged to initiate a process towards the dismantling or conversion for peaceful uses of facilities for the production of fissile material for use in nuclear weapons or other nuclear explosive devices.**

Monitoring the implementation of this action and assessing what constitutes progress (short of complete dismantlement of facilities) is not entirely straightforward. The only clear-cut case is

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<sup>396</sup> Please see IAEA INFCIRC/806, September 16, 2010,  
[www.iaea.org/Publications/Documents/Infircs/2010/infirc806.pdf](http://www.iaea.org/Publications/Documents/Infircs/2010/infirc806.pdf)

<sup>397</sup> Ibid.

<sup>398</sup> Plutonium Management and Disposition Agreement (PMDA) synopsis, US Defense Threat Reduction Agency,  
<http://dtirp.dtra.mil/tic/synopses/pmda.aspx>

<sup>399</sup> Remarks made under Chatham House rules.

France, which, by the time of the 2010 Review Conference, had already dismantled all its facilities for weapons material production. None of the other NWS is known to be producing fissile material for weapons purposes, so presumably, all of their operational facilities can be considered as converted to non-weapons use already. (One possible exception might be China, as it has not officially declared a moratorium on the production of fissile material for weapons purposes.)

Dismantlement of facilities, on the other hand, is a lengthy, complex and expensive project. Initiation of “a process towards dismantling” seems to cover a wide range of actions, from announcement of the intent to, eventually, dismantle a facility, through to the actual shut down and decommissioning of the facility. Physical dismantlement of the facilities also becomes more of an environmental remediation, rather than disarmament, project. From this perspective, in most cases, the process “towards the dismantling” had been initiated prior to the 2010 Review Conference, through the shutdown of plutonium producing reactors and reprocessing plants, or decisions on shut down and decommissioning.<sup>400</sup>

Under this action item, the report therefore describes the status of facilities that used to produce fissile material for nuclear weapons, where such information is available from open sources. During the reporting period, the United States continued the placement of former plutonium production reactors at Hanford in interim safe storage (cocooning), and Russia approved decommissioning plans for some of its reactors.

***Indicator 18.1. Conversion/dismantlement of facilities is completed during the reporting period; or other steps towards dismantlement or conversion are taken during the reporting period***

**China**

**Insufficient information**

According to IPFM, China had shut down its military plutonium production reactors and reprocessing plants at Jiuquan and Guangyuan by 1990, and stopped producing HEU for nuclear weapons by 1989.<sup>401</sup> At least one facility, the Guangyuan Plutonium Production Reactor and Reprocessing site (also known as site 821), appears to have been fully converted to civilian use, with military material production facilities decommissioned.<sup>402</sup> However, China has not officially announced a moratorium on producing fissile material for weapons, so it is unclear if it plans to resume production at former or new facilities.

**France**

**Dismantlement completed**

France stopped producing plutonium for nuclear weapons in 1992 and HEU in 1996.<sup>403</sup> France has announced the dismantlement of its Pierrelatte (HEU) and Marcoule (plutonium) facilities, and even organized tours for diplomats and media to visit the sites in 2008 and 2009.<sup>404</sup>

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<sup>400</sup> Note, however, that shut-down facilities can remain shut down but not dismantled for many years.

<sup>401</sup> “Global Fissile Material Report 2010,” IPFM, p. 97.

<sup>402</sup> The new company operating the site, Sichuan Environmental Protection Engineering Co., Ltd, specializes in decommissioning nuclear facilities; see China: Nuclear Facilities, Country Profiles, [www.nti.org/facilities/730/](http://www.nti.org/facilities/730/) and [www.cnnc.com.cn/2006-10-17/000047102.html](http://www.cnnc.com.cn/2006-10-17/000047102.html) (in Chinese). Other sites are co-located with civilian nuclear facilities.

<sup>403</sup> Countries: France, IPFM, <http://fissilematerials.org/countries/france.html>

<sup>404</sup> “Stopping Fissile Material Production for Nuclear Weapons,” France NPT website, [www.francetnp.fr/?article92](http://www.francetnp.fr/?article92)

## **United Kingdom**

### **No changes; some dismantlement completed prior to 2010**

The United Kingdom has maintained a moratorium on the production of fissile material for nuclear weapons and other nuclear explosive devices since 1995. Most UK military plutonium was produced at the Sellafield complex. According to the 2010 IPFM Global Fissile Material Report, all 10 UK reactors that produced military plutonium had been shut down prior to 2010.<sup>405</sup> Dismantlement plans for these plants are very long term, and dismantlement is not expected to be completed until “2041–2065 for Windscale, 2105–2117 for Calder Hall, and 2116–2128 for Chapelcross.”<sup>406</sup> The two reprocessing plants at Sellafield reprocess spent fuel from civilian reactors.

One of the two gaseous diffusion plants at Capenhurst produced HEU for weapons purposes until 1962, and then was converted to LEU production. That plant was shut down in 1982, decommissioned, and subsequently demolished.<sup>407</sup> The other Capenhurst enrichment plant is civilian and operated by the private firm, URENCO.

## **Russia**

### **Yes: Decommissioning in progress**

All of the operational uranium enrichment facilities in Russia are designated as civilian, although three of them are located in closed cities and used to be part of the military program.<sup>408</sup> All of the plutonium production reactors have been shut down—the last one (ADE-2) in April 2010, after years of delay. According to NNSA, 27 plutonium production reactors that have been shut down in Russia are subject to bilateral monitoring under the US-Russia Plutonium Production Agreement (PPRA).<sup>409</sup> Under PPRA, the two governments agreed that the reactors that had been shut down would not be restarted. Decommissioning of three reactors in Zheleznogorsk is reportedly in progress and is due to be completed by late 2015.<sup>410</sup> Two reprocessing plants in Russia, in Seversk and Zheleznogorsk, are also designated for shutdown,<sup>411</sup> though no timelines are available from open sources.

## **United States**

### **Yes: Demolition/ “processes towards dismantling” in progress**

The demolition of K-25 gaseous diffusion facility at Oak Ridge that produced HEU for nuclear weapons until 1964 was completed in December 2013, and clean-up work is to be concluded in spring 2014.<sup>412</sup> The Department of Energy (DOE) reportedly plans to build a K-25 History Center at the site.<sup>413</sup> In

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<sup>405</sup> “Global Fissile Material Report 2010,” p.83; exact dates vary for different reactors.

<sup>406</sup> Ibid. For detailed decommissioning plans see the “Lifetime Plans” for Windscale, Calder Hall, and Chapelcross, all available at [www.nda.gov.uk](http://www.nda.gov.uk)

<sup>407</sup> See Capenhurst, UK National Decommissioning Authority, [www.nda.gov.uk/ukinventory/sites/capenhurst/](http://www.nda.gov.uk/ukinventory/sites/capenhurst/)

<sup>408</sup> SIPRI 2011 Yearbook, p. 358, [www.sipri.org/yearbook/2011/files/SIPRIYB1107-07A.pdf](http://www.sipri.org/yearbook/2011/files/SIPRIYB1107-07A.pdf)

<sup>409</sup> Plutonium Production Reactors Agreement Fact Sheet, NNSA, September 2011.

<sup>410</sup> “Железногорский ГХК сам демонтирует последний в мире реактор оружейного плутония” (“Zheleznogorsk Combine Will Decommission the Last Weapons Plutonium Reactor”), *Interfax*, February 27, 2014, [www.atomic-energy.ru/news/2014/02/27/46982](http://www.atomic-energy.ru/news/2014/02/27/46982).

<sup>411</sup> Appendix 3, “Global Fissile Material Report 2011,” IPFM, p. 33.

<sup>412</sup> “Energy Department Completes K-25 Gaseous Diffusion Building Demolition,” Office of Environmental Management, US Department of Energy, December 19, 2013, <http://energy.gov/em/articles/energy-department-completes-k-25-gaseous-diffusion-building-demolition>.

<sup>413</sup> “Demolition Continues of Oak Ridge K-25 Building, Where Atomic Bombs First Produced,” Associated Press, February 6, 2012, [http://blog.al.com/wire/2012/02/demolition\\_continues\\_of\\_oak\\_ri.html](http://blog.al.com/wire/2012/02/demolition_continues_of_oak_ri.html)

August 2010, DOE also announced awarding a \$2 billion, 10-year contract for decontamination and decommissioning of the Portsmouth Gaseous Diffusion Plant, which also used to be part of the US nuclear weapons complex and produced HEU for weapons until 1964. The work envisions the demolition of process facilities, clean up, and remediation of soil and groundwater.<sup>414</sup> The Paducah Gaseous Diffusion Plant, which also used to enrich uranium for weapons purposes, has been converted to peaceful uses and is operated by USEC. It is expected that the plant will be eventually shut down, but the timing of that decision is tied to the success of the US centrifuge enrichment program.

The five heavy-water plutonium production reactors at the Savannah River Site in South Carolina were shut down by the mid-1990s and are currently at various stages of decommissioning.<sup>415</sup> Decommissioning work is also ongoing at the Hanford site in Washington state. In October 2010, it was reported that DOE was considering the complete dismantlement of K East, one of the nine graphite-moderated plutonium production reactors at the Hanford site.<sup>416</sup> However, the official Hanford website indicates that both K East and K West reactors are being “cocooned” (partially taken apart with their cores encased to prevent the leakage of radiation)—one by 2015, and the other to follow. The work on the K East Reactor was reported as 60 percent complete in February 2013, while the cocooning of the K West Reactor cannot be undertaken until radioactive sludge is removed from its cooling basin and the basin itself demolished.<sup>417</sup> The cocooning of Reactor N was announced complete in June 2012, with the placement of the reactor in interim safe storage for about 75 years.<sup>418</sup> Five other reactors were cocooned by 2005. One more reactor at Hanford was turned into a museum.<sup>419</sup>

**Action 19: All States agree on the importance of supporting cooperation among Governments, the United Nations, other international and regional organizations and civil society aimed at increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament.**

While the formulation of this action item is very broad, it was in fact linked to a specific project—the UK-Norway Initiative (UKNI) on warhead dismantlement verification, implemented by the two states since 2007. The nongovernmental Verification Research, Training and Information Centre also participates in this initiative focused on developing technologies that would allow non-nuclear weapon states to participate in the verification of nuclear warheads dismantlement.<sup>420</sup> The action item was thus meant to encourage this and possible other collaborative projects on nuclear disarmament verification.

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<sup>414</sup> “DOE Awards Clean Up Contract for Portsmouth Decontamination and Decommissioning,” US Department of Energy press release, August 13, 2010.

<sup>415</sup> “Global Fissile Material Report 2010,” IPFM, p. 7; see also “SRS Clean up Activities at Specific Areas/OU,” US Environmental Protection Agency, [www.epa.gov/region4/superfund/sites/fedfac/savrivscareas.html](http://www.epa.gov/region4/superfund/sites/fedfac/savrivscareas.html)

<sup>416</sup> “Energy Department Wants to Remove Hanford Reactor Rather Than Cocooning It,” Associated Press, October 19, 2010.

<sup>417</sup> “K East Reactor to Be in Surveillance Mode to Await Cocooning,” *Tri-City Herald*, February 14, 2013, [www.tricityherald.com/2013/02/14/2274804/k-east-reactor-to-be-in-surveillance.html](http://www.tricityherald.com/2013/02/14/2274804/k-east-reactor-to-be-in-surveillance.html).

<sup>418</sup> “N Reactor Placed in Interim Safe Storage: Largest Hanford Reactor Cooning Project Now Complete,” US Department of Energy, Juny 14, 2012, <http://energy.gov/em/articles/n-reactor-placed-interim-safe-storage-largest-hanford-reactor>

<sup>419</sup> “Hanford: Projects and Facilities,” U.S. Department of Energy, [www.hanford.gov/page.cfm/ProjectsFacilities](http://www.hanford.gov/page.cfm/ProjectsFacilities)

<sup>420</sup> For a description of the initiative and progress report, please see UK Ministry of Defence, [www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/SecurityandIntelligencePublications/InternationalSecurity/UkNorwayInitiativeOnNuclearWarheadDismantlementVerification.htm](http://www.mod.uk/DefenceInternet/AboutDefence/CorporatePublications/SecurityandIntelligencePublications/InternationalSecurity/UkNorwayInitiativeOnNuclearWarheadDismantlementVerification.htm),

***Indicator 19.1. States participate in disarmament/dismantlement verification initiatives or launch new ones***

**Progress**

In December 2011, the United Kingdom and Norway jointly hosted a three-day workshop for non-nuclear weapon states on nuclear dismantlement verification, based on the experience of the UK-Norway project. The workshop was attended by representatives of 12 NNWS as well as the United States.<sup>421</sup> In July 2011, the United Kingdom invited the other NWS to a confidential expert-level briefing on lessons learned from the experience of the UK-Norway Initiative.<sup>422</sup> The meeting took place on April 4, 2012, and according to official reports, “UK scientists and technical experts shared the outcomes and lessons” with their counterparts from other NWS.<sup>423</sup> In March 2013, the UK Permanent Representative to the CD stated that the two countries would continue to share information on the project.<sup>424</sup> In April 2013, King’s College in London reported the start of a new research project in collaboration with the governments of Norway and the United Kingdom. The project builds on the King’s College students’ past participation in dismantlement verification simulations in Norway and examines “confidence and trust building in this respect.” The results will be presented at the 2015 NPT Review Conference.<sup>425</sup> Very little further information on UKNI continuation has been publicly available in the past year, however.

The United States and United Kingdom are also collaborating on developing warhead dismantlement verification. In addition to sharing information on this work with the other NWS, in October 2013, the two countries for the first time gave a briefing on their verification project to a larger audience on the margins of the UN First Committee session. They are also planning to have another briefing at the 2014 PrepCom session. The project, according to NNSA, includes an 18-month monitored dismantlement exercise, which the two states concluded in early 2012. Unlike the UK-Norway Initiative, the US-UK exercise scenario envisioned that both participating fictional countries were nuclear weapon states. The dismantlement took place at an operational nuclear facility and involved a mock device with actual fissile material and simulated high explosives.<sup>426</sup> According to NNSA officials, since 2012, the United States and United Kingdom “have continued to cooperate on verification technologies and methodologies and plan to continue our cooperation into the future.”<sup>427</sup>

In cooperation with the US Departments of Energy, State, and Defense, the Nuclear Threat Initiative (NTI) is implementing a disarmament verification project. The project brings a variety of experts together to tackle such issues as verifying the elimination of nuclear weapons and involvement of non-

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<sup>421</sup> “The UK-Norway Initiative: Report on the UKNI Non-Nuclear-Weapon States Workshop (7-9 December 2011),” [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/28423/120426\\_2011\\_ukni\\_workshop\\_final\\_rpt.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/28423/120426_2011_ukni_workshop_final_rpt.pdf)

<sup>422</sup> “UK Norway Workshop: Questions Answered,” United Kingdom-Norway Initiative, <https://registration.livegroup.co.uk/ukniworkshop/FAQ/#faq10>.

<sup>423</sup> “UK Hosts Meeting on Nuclear Disarmament Verification Research,” British Embassy in Berlin, April 4, 2012, <http://ukinGermany.fco.gov.uk/en/news/?view=News&id=750457882>.

<sup>424</sup> Statement on Nuclear Disarmament by Ambassador Joanne Adamson, UK Permanent Representative to the Conference on Disarmament, March 5, 2013, [www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March\\_UK.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/5March_UK.pdf).

<sup>425</sup> “New Nuclear Project with UK and Norwegian Governments,” King’s College London news, April 29, 2013, [www.kcl.ac.uk/sspp/departments/warstudies/news/newsrecords/ukni.aspx](http://www.kcl.ac.uk/sspp/departments/warstudies/news/newsrecords/ukni.aspx).

<sup>426</sup> Michele Smith, “U.S. and UK Conclude Warhead Monitored Dismantlement Exercise,” *Highlights*, Office of Nonproliferation and International Security newsletter, NNSA, Fall 2012, pp. 7-8.

<sup>427</sup> Author’s correspondence with an NNSA official familiar with this project, April 2014.

nuclear-weapon states in such work.<sup>428</sup> NTI is planning to brief the participants of the 2014 NPT PrepCom session on the progress of this pilot project.

**Action 20: States parties should submit regular reports, within the framework of all the strengthened review process for the Treaty, on the implementation of the present action plan, as well as of article VI, paragraph 4(c), of the 1995 decision entitled “Principles and objectives for nuclear non-proliferation and disarmament”, and the practical steps agreed to in the Final Document of the 2000 Review Conference, and recalling the advisory opinion of the International Court of Justice of 8 July 1996.**

#### **Limited progress**

At the time of this writing, Germany was the only state that had submitted a national report on the implementation of the NPT and the Action Plan ahead of the 2014 NPT PrepCom. Austria, Canada, and Switzerland submitted national reports to the 2013 NPT PrepCom meeting. Iran submitted reports specifically on Article VI and the establishment of a zone free of weapons of mass destruction in the Middle East. The numbers are down compared to the 2012 NPT PrepCom, when five states (Australia, Canada, Iran, New Zealand, and the Republic of Korea) submitted their national reports. Overall, the rate of reporting has not exceeded 3 percent of the NPT membership.

**Action 21: As a confidence-building measure, all the nuclear-weapon states are encouraged to agree as soon as possible on a standard reporting form and to determine appropriate reporting intervals for the purpose of voluntarily providing standard information without prejudice to national security. The Secretary-General of the United Nations is invited to establish a publicly accessible repository, which shall include the information provided by the nuclear-weapon states.**

#### ***Indicator 21.1. Nuclear weapons states agree on a standard form and establish reporting intervals***

##### **Progress**

The five NWS have agreed on a standard reporting form, with headings reportedly covering such areas as nuclear doctrines, arms control and disarmament activities, information on their arsenals and fissile material. However, views on transparency among the five continue to differ, with China and, to a lesser extend, Russia wary of providing more information. Therefore, while based on a common standard, the reporting will not be uniform, as each state will provide as much information as it is comfortable with sharing.<sup>429</sup>

Earlier, the Non-Proliferation and Disarmament Initiative (NPDI), a twelve-nation group established by Australia and Japan, proposed a draft reporting form to the NWS in fall 2010 and

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<sup>428</sup> “Verification Pilot Project,” NTI website, [www.nti.org/about/projects/verification-pilot-project/](http://www.nti.org/about/projects/verification-pilot-project/).

<sup>429</sup> Conversations with officials involved in the NWS consultations, March 2014.

subsequently presented it in a working paper at the 2012 NPT PrepCom.<sup>430</sup> It is yet unclear how much the proposed draft has influenced the formulation of the standard form adopted by the NWS.

***Indicator 21.2. NWS begin to report according to the adopted standard***

**Upcoming**

NWS reports on the basis of the new standard form will be submitted to the 2014 PrepCom meeting in New York.

***Indicator 21.3. UN Secretary-General establishes a repository for NWS reports***

**Yes**

An online repository has been established on the website of the UN Office for Disarmament Affairs after the 2010 NPT Review Conference.<sup>431</sup> It is empty; none of the NWS have submitted any reports.

**Action 22: All states are encouraged to implement the recommendations contained in the report of the Secretary-General of the United Nations (A/57/124) regarding the United Nations study on disarmament and non-proliferation education, in order to advance the goals of the treaty in support of achieving a world without nuclear weapons.**

The UN General Assembly in 2002 adopted 34 recommendations of the UN Experts Group Study on Disarmament and Nonproliferation (DNP) Education,<sup>432</sup> recognizing education as an integral part of achieving a safe and secure world free of nuclear weapons. General Assembly resolution 57/60 conveys the recommendations for implementation by states, international organizations, and civil society, and requests the UN Secretary-General to prepare a report reviewing the results of the implementation of the recommendations.<sup>433</sup>

Since 2004, the UNSG has issued biennial reports on the implementation of the Experts Group's recommendations on the basis of submissions from member states, as well as international and nongovernmental organizations.<sup>434</sup> Five UNSG reports on DNP education have been released to date, the most recent in July 2012. The number of reports submitted by states (indicator 22.1), as well as the level of support for the UN General Assembly resolution on DNP education (indicator 22.2), provides the basis for monitoring progress made in the implementation of NPT Action Item 22. It is beyond

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<sup>430</sup> See Statement by H.E. Mr. Mari Amano, head of Japan's delegation to the CD, at the UN First Committee, October 14, 2011, [www.disarm.emb-japan.go.jp/statements/Statement/141011UNGA.htm](http://www.disarm.emb-japan.go.jp/statements/Statement/141011UNGA.htm), and "Transparency of Nuclear Weapons: the Non-Proliferation and Disarmament Initiative," Working Paper, NPT/CONF.2015/PC.I/WP.12, April 20, 2012.

<sup>431</sup> Available at [www.un.org/disarmament/WMD/Nuclear/Repository/](http://www.un.org/disarmament/WMD/Nuclear/Repository/).

<sup>432</sup> The report of the Secretary-General in 2002 (A/57/124), containing the study conducted by the Expert group, was presented to the UNGA First Committee on 9 October 2002, and the General Assembly adopted resolution 57/60 on 22 November 2002. The UN Study also pertains to concerns over conventional armaments, including small arms and light weapons. See A/RES/57/60. For recommendations, see A/57/124.

<sup>433</sup> Recommendation 32 of the UN Study also requests the UNSG to prepare a report biennially. Ibid.

<sup>434</sup> Recommendation 31, in particular, calls on Member States to report on their implementation of the recommendations. The report also contains information provided by international organizations and civil society on their implementation of the recommendations.

the scope of this report to examine unreported measures undertaken by States in implementing the recommendations of the UN Study on Disarmament and Nonproliferation Education.

### ***Indicator 22.1. States submit reports to the UN on the implementation of A/57/124***

#### **Limited Progress**

The next UNSG report on disarmament and nonproliferation education will be released in summer 2014, and the deadline for states and NGO submissions to the report is in May 2014.

While states generally support the importance of disarmament and nonproliferation education,<sup>435</sup> reporting has been limited. The latest UN Secretary-General report on DNP education, issued in July 2012, registered a slight uptick in the number of states submitting information. In 2012, 10 member states reported to the UN on their disarmament and nonproliferation education activities, the highest number so far.<sup>436</sup> While this indicates certain progress, compared to just six reports in 2010, the overall level of reporting remains low.

#### **Overview of report submissions<sup>437</sup>**

<b>Year</b>	<b>UNSG Report Symbol</b>	<b>States that submitted reports</b>	<b>Total state reports</b>
2004	A/59/178	Hungary, Japan, Mexico, New Zealand, Russian Federation*, Sweden, Venezuela	7
2006	A/61/169	Bangladesh, Bolivia, Canada, Japan, Mauritius, Mexico, New Zealand, Suriname	8
2008	A/63/158	Burundi, Cambodia, Italy, Mauritius, Netherlands, Qatar, Spain	7
2010	A/65/160	Burkina Faso, Japan, Mexico, Spain, Turkmenistan, Ukraine	6
2012	A/67/138	Austria, Colombia, Cuba, Germany, Italy, Japan, Lebanon, Mexico, Panama, New Zealand	10
<b>TOTAL</b>		<b>27 States</b>	<b>38 Submissions</b>

\* Nuclear weapon states

For a more detailed overview of past UNSG reports, please see the 2013 Monitoring Report.<sup>438</sup>

<sup>435</sup> All four GA resolutions have been adopted by consensus (adopted without a vote in the GA), which is an indication of general support towards disarmament and nonproliferation education.

<sup>436</sup> Contributions to the Report of the Secretary-General on Disarmament and Non-Proliferation Education Received by the Office for Disarmament Affairs, 2012 submissions, [www.un.org/disarmament/education/2002UNStudy/2012SGreportcontributions.shtml](http://www.un.org/disarmament/education/2002UNStudy/2012SGreportcontributions.shtml)

<sup>437</sup> Turkmenistan and Germany were not originally included in the UNSG reports in 2010 and 2012, respectively. Added by Addendum 1.

<sup>438</sup> Gaukhar Mukhatzhanova, “Implementation of the Conclusions and Recommendations for Follow-on Actions Adopted at the 2010 NPT Review Conference: Disarmament Actions 1-22,” James Martin Center for Nonproliferation Studies, April 2013, pp. 77-78.

Several states and groups addressed the issue of disarmament and nonproliferation education at the 2012 PrepCom in Vienna and the 2013 PrepCom in Geneva. Austria and Japan submitted a joint working paper in 2012, outlining some of the activities they had undertaken and that could serve as “models” for DNP education.<sup>439</sup> The NPDI submitted two working papers on DNP education, highlighting in particular projects and initiatives of five member states—Canada, Japan, Mexico, the Netherlands, and Poland.<sup>440</sup> Austria, New Zealand, and Switzerland included information on their support for disarmament education in their respective reports to the 2013 PrepCom.

### ***Indicator 22.2. State support expressed through General Assembly resolutions***

#### **Progress**

Since the first resolution on DNP education adopted in 2002 (A/RES/57/60), the General Assembly has adopted a follow-on resolution biennially.<sup>441</sup> To date, there have been five General Assembly resolutions on DNP education, and they do not differ significantly in substance. All five resolutions were adopted without a vote in both the First Committee and the General Assembly, reflecting general support by states for disarmament and nonproliferation education. The number of state sponsors and co-sponsors of the resolution has increased over the years: the resolution adopted in 2010 (A/RES/65/77) had almost twice as many sponsors (44 states) as the first DNP education resolution adopted in 2002 (24 states). The number of state sponsors and co-sponsors of the resolution increased further in 2012 and reached 52.<sup>442</sup>

Mexico has been the lead sponsor introducing all of the draft DNP resolutions on behalf of the sponsors. Among the nuclear weapon states, the United Kingdom sponsored and co-sponsored the 2012, 2010, and 2008 resolutions, while France was a co-sponsor of the 2004 resolution. In 2012, the United States, too, for the first time co-sponsored the DNP education resolution. The next resolution is expected to be tabled at the 2014 session of the UN First Committee.

As noted above, however, in spite of the broad support for the concept of disarmament and nonproliferation education, and associated resolutions, state reporting on relevant activities remains very limited.

### **The Middle East, particularly implementation of the 1995 Resolution on the Middle East**

The last part of the Conclusions and Recommendations adopted in 2010 addressed regional issues, particularly the Middle East and implementation of the 1995 resolution on the establishment of a zone free of nuclear weapons and all other WMD in that region. The 1995 resolution was co-sponsored by the three NPT depositaries—Russia, the United Kingdom, and the United States—and adopted as part of the package of decisions to extend the treaty indefinitely. The resolution calls on states in the Middle East to take practical steps towards establishing the WMD-free zone in the

<sup>439</sup> “Bridging the Generation Divide for Peace and a Sustainable Future through Disarmament and Non-Proliferation Education,” Working Paper submitted by Austria and Japan, NPT/CONF.2015/PC.I/WP.11, April 19, 2012.

<sup>440</sup> “Disarmament and Non-Proliferation Education,” Working Papers submitted by the Non-Proliferation and Disarmament Initiative, NPT/CONF.2015/PC.II/WP.12/Rev.1, April 9, 2013 and NPT/CONF.2015/PC.I/WP.14, April 20, 2012.

<sup>441</sup> The years and symbols of the DNP resolutions are as follows: 2010 (A/RES/65/77); 2008 (A/RES/63/70); 2006 (A/RES/61/73); 2004 (A/RES/59/93); 2002 (A/RES/57/60).

<sup>442</sup> For more details, see the Mukhatzhanova, “Implementation of the Conclusions and Recommendations for Follow-on Actions” (2013 Monitoring Report), p. 79, [http://cns.miis.edu/stories/130405\\_2013\\_cns\\_npt\\_monitoring\\_report.htm](http://cns.miis.edu/stories/130405_2013_cns_npt_monitoring_report.htm).

region, and calls on all other NPT parties, particularly the NWS “to extend their cooperation and to exert their utmost efforts” for the establishment of the zone.<sup>443</sup> There had been no progress on this issue since 1995, and adopting actionable recommendations on the Middle East was central to achieving consensus at the 2010 NPT Review Conference.

As part of the Conclusions and Recommendations, the 2010 RevCon endorsed a set of practical steps towards the establishment of the Middle East zone free of nuclear weapons and all other WMD. The status of their implementation as of March 2013 is reviewed below.

**(a) The Secretary-General of the United Nations and the co-sponsors of the 1995 Resolution, in consultation with the States of the region, will convene a conference in 2012, to be attended by all States of the Middle East, on the establishment of a Middle East zone free of nuclear weapons and all other weapons of mass destruction, on the basis of arrangements freely arrived at by the States of the region, and with the full support and engagement of the nuclear-weapon States. The 2012 Conference shall take as its terms of reference the 1995 Resolution.**

No

The Middle East Conference mandated by the 2010 RevCon has yet to take place, but there appears to have been progress since October 2013 towards agreement on the conference agenda and modalities and setting new dates (see section (b) below for more).

The conference was tentatively scheduled to take place in Helsinki in December 2012, but the UN Secretary-General could not issue official invitations without all states in the Middle East indicating in advance their readiness to attend. Iran announced its decision to participate in the conference in November 2012, while Israel never confirmed attendance (though it has not unequivocally refused to participate, either). Israel is concerned that the prospective conference would focus exclusively on nuclear weapons or WMD issues, while it believes that resolution of regional security issues should take precedence over the establishment of a WMD-free zone.<sup>444</sup> The Arab states traditionally emphasize regional nuclear disarmament and are wary of diverting attention from this issue.

In late November 2012, NPT depositary states and co-sponsors of the 1995 Middle East resolution announced the postponement of the Middle East conference. Due to disagreements among them, Russia, the United Kingdom, and the United States each announced the decision separately and had different perspectives on when and whether the conference would be convened.<sup>445</sup> The disagreement became even more apparent when, at the 2013 PrepCom session, the Russian

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<sup>443</sup> “Resolution on the Middle East,” NPT/CONF.1995/32 (Part I), [www.un.org/disarmament/WMD/Nuclear/1995-NPT/pdf/Resolution\\_MiddleEast.pdf](http://www.un.org/disarmament/WMD/Nuclear/1995-NPT/pdf/Resolution_MiddleEast.pdf).

<sup>444</sup> For a discussion of Israel’s reasoning, see Chen Kane, “2012 MEWMDFZ Conference: To Participate or Not to Participate, Why Is It Even a Question?” Arms Control and Regional Security in the Middle East (blog), October 15, 2012, [www.middleeast-armscontrol.com/2012/10/15/2012-mewmfdz-conf-to-participate-or-not-to-participate-why-is-it-even-a-question-2/](http://www.middleeast-armscontrol.com/2012/10/15/2012-mewmfdz-conf-to-participate-or-not-to-participate-why-is-it-even-a-question-2/).

<sup>445</sup> “2012 Conference on a Middle East Zone Free of Weapons of Mass Destruction (MEWMDFZ),” Press Statement, Office of the Spokesman, US Department of State, November 23, 2012.

representative stated that the co-conveners had no right to postpone the conference and the United States had made that decision unilaterally.<sup>446</sup>

Not surprisingly, Arab states' reaction to the postponement of the conference was negative, and in early 2013 the League of Arab States considered whether its members would attend the 2013 NPT PrepCom at all.<sup>447</sup> The Arab states did attend the PrepCom in Geneva after all, but the Egyptian delegation walked out of the second week of the session to protest the postponement of the conference. As part of their response, the Arab States again introduced the Israeli Nuclear Capabilities (INC) resolution at the IAEA General Conference in September 2013. (The Arab states had previously agreed not to table the draft resolution in 2011 and 2012 in light of efforts to convene the Middle East conference.) The resolution, which for years has been a point of contention, calls on Israel to accept IAEA safeguards on all its nuclear facilities and accede to the NPT.<sup>448</sup> The INC resolution was defeated in 2013 by a vote of 51 against, 43 in favor, and 32 abstaining.<sup>449</sup>

**(b) Appointment by the Secretary-General of the United Nations and the co-sponsors of the 1995 Resolution, in consultation with the States of the region, of a facilitator, with a mandate to support implementation of the 1995 Resolution by conducting consultations with the States of the region in that regard and undertaking preparations for the convening of the 2012 Conference [...] The facilitator will report to the 2015 NPT Review Conference and its Preparatory Committee meetings;**

**(c) Designation by the Secretary-General of the United Nations and the co-sponsors of the 1995 Resolution, in consultation with the States of the region, of a host Government for the 2012 Conference.**

Yes

Although the Action Plan did not require this specifically, it was subsequently agreed that the government to provide the facilitator should also be the host for the 2012 Middle East conference.

On October 14, 2011, the UN Secretary-General announced the selection of Finland as the host government and the appointment of Under-Secretary of State for Foreign and Security Policy Jaakko Laajava as the facilitator.

The facilitator reported on his work at both the 2012 and 2013 PrepCom meetings in Vienna and Geneva, respectively. In April 2013, the facilitator informed NPT states parties that he had held over 300 consultations with states in the Middle East, nuclear weapon states, and other relevant actors. The consultations concerned the scope, agenda, and organizational aspects of the planned regional

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<sup>446</sup> Statement by Mikhail Ulyanov at the Second Session of the Preparatory Committee for the 2015 NPT Review Conference, April 22, 2013, [http://papersmartv4.unmeetings.org/media/1274254/Russia\\_English.pdf](http://papersmartv4.unmeetings.org/media/1274254/Russia_English.pdf)

<sup>447</sup> See Mukhazhanova, "Implementation of the Conclusions and Recommendations for Follow-on Actions," April 2013, pp. 80-81, [http://cns.miis.edu/stories/130405\\_2013\\_cns\\_npt\\_monitoring\\_report.htm](http://cns.miis.edu/stories/130405_2013_cns_npt_monitoring_report.htm).

<sup>448</sup> For more on the resolution and the debate at the IAEA, see "Factsheet #2: Middle East Issues," James Martin Center for Nonproliferation Studies and the Vienna Center for Disarmament and Non-Proliferation, September 11, 2013, [http://cns.miis.edu/stories/pdfs/130911\\_cns\\_ieaa\\_factsheet\\_middle\\_east.pdf](http://cns.miis.edu/stories/pdfs/130911_cns_ieaa_factsheet_middle_east.pdf).

<sup>449</sup> Record of the Ninth Meeting, Plenary, 57th Regular Session of the General Conference, International atomic Energy Agency, September 20, 2013, [www.iaea.org/About/Policy/GC/GC57/GC57Records/English/gc57or-9\\_en.pdf](http://www.iaea.org/About/Policy/GC/GC57/GC57Records/English/gc57or-9_en.pdf).

conference, as well as substantive issues regarding the establishment of the zone. According to the facilitator's report in 2012, all states in the region had confirmed their commitment to establishing the zone free of nuclear weapons and all other WMD, yet disagreed on the process through which this should be accomplished.<sup>450</sup>

In an attempt to bring the regional states together and overcome disagreements, the facilitator proposed to hold informal consultations to discuss conference agenda and other arrangements. The Arab and Israeli sides had initially put forth almost diametrically opposing conditions for attending such consultations. The Arab states insisted that the new date for the Middle East conference should be fixed before the consultations and that only states which had already confirmed their attendance in Helsinki should be invited to the informal meeting. Israel, on the other hand, argued that the new date for the conference should be set only after the consultations and that it would not commit to participate in the conference before agreeing on its agenda, rules of procedure and other issues. The sides also disagreed on whether the consultations should take place under the UN auspices or not.

With the impasse continuing into fall 2013, Ambassador Laajava announced that he and the co-conveners would meet in Switzerland in October 2013 and all regional states were welcome to attend, without preconditions. This approach has since yielded some progress, as representatives of Egypt, several other Arab states, and Israel attended three rounds of consultations in Glion, Switzerland, in October 2013, November 2013, and February 2014. A representative of Iran attended only the first round but found it difficult to return, reportedly due to the ongoing negotiations with the E3+3. Domestic criticism for participating in meetings with Israeli officials outside UN auspices is possibly a factor as well. Iran, however, has indicated that it is still committed to attend the conference in Finland.<sup>451</sup>

At the consultations, the parties reportedly discussed the rules of procedure, agenda, and the dates for the Middle East conference, voiced their concerns, and started to address potential outcomes and next steps to be adopted.<sup>452</sup> Still, they were not able to reach an agreement, and another meeting is expected to take place in Geneva after the 2014 PrepCom meeting.

**(d) Additional steps aimed at supporting the implementation of the 1995 Resolution, including that IAEA, the Organization for the Prohibition of Chemical Weapons and other relevant international organizations be requested to prepare background documentation for the 2012 Conference regarding modalities for a zone free of nuclear weapons and other weapons of mass destruction and their delivery systems, taking into account work previously undertaken and experience gained**

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<sup>450</sup> Report of the Facilitator to the First Session of the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, May 8, 2012, NPT/CONF.2015/PC.I/11.

<sup>451</sup> Conversations with officials familiar with the consultations, February and March 2014.

<sup>452</sup> Conversations with officials familiar with the consultations, December 2013, February 2014, and March 2014. For more discussion on the consultations and preparations for the Middle East Conference, also see Gaukhar Mukhatzhanova, "Rough Seas Ahead: Issues for the 2015 NPT Review Conference," *Arms Control Today*, Vol. 44, no. 3 (April 2014), [www.armscontrol.org/act/2014\\_04/Rough-Seas-Ahead\\_Issues-for-the-2015-NPT-Review-Conference](http://www.armscontrol.org/act/2014_04/Rough-Seas-Ahead_Issues-for-the-2015-NPT-Review-Conference).

Relevant international organizations, including the UN Office for Disarmament Affairs, IAEA, and CTBTO, have prepared background documentation and would be ready to provide assistance were the conference take place and establish a process.

In addition, in November 2011, the IAEA hosted a Forum on Experience of Possible Relevance to the Creation of an NWFZ in the Middle East, chaired by Ambassador Jan Petersen of Norway. For further information on the forum, see the 2013 Monitoring Report.

***(e) Consideration of all offers aimed at supporting the implementation of the 1995 Resolution, including the offer of the European Union to host a follow-on seminar to that organized in June 2008.***

The seminar to which this step refers was held by the European Union Institute for Security Studies in Paris on June 19, 2008, and titled “Middle East Security, WMD Non-proliferation and Disarmament.” As a follow-up to that seminar and pursuant to the 2010 NPT Action Plan, the Council of the European Union supported the organization of two more such events, conducted by the EU Non-Proliferation Consortium. The first follow-on seminar took place on July 6-7, 2011, in Brussels, and brought together not only representatives of states in the Middle East, but also nuclear weapon states and NNWS from various regions, along with experts from civil society. Almost 200 participants discussed regional security, implementation of nonproliferation measures, and necessary steps for the convening of the 2012 Middle East conference.<sup>453</sup> The second seminar took place on November 5-6, 2012 in Brussels, and its agenda covered confidence-building measures in the WMD area, peaceful uses of nuclear energy, and regional security. Participants in both seminars had also submitted papers tackling different aspects of the issue, and these materials are available online.<sup>454</sup>

Apart from the EU seminars, a number of initiatives have been undertaken by the expert community, with support from different governments, to tackle the challenges and prospects of convening the 2012 Middle East conference and, more broadly, establishing the WMD-free zone in the region. While they cannot by themselves overcome the lack of political will and existing disagreements among states in the region and the co-sponsors of the 1995 Middle East Resolution, such initiatives help inform the debate and advance thinking for the future process.

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<sup>453</sup> For an overview of discussion, see Final Assessment by Camille Grand, Chairman of the EU Non-Proliferation Consortium, [www.nonproliferation.eu/documents/final\\_assessment.pdf](http://www.nonproliferation.eu/documents/final_assessment.pdf).

<sup>454</sup> The 2011 and 2012 Seminar Background Papers are available through the EU Non-Proliferation Consortium website: [www.nonproliferation.eu/middleEastSeminar2012/firstSeminar](http://www.nonproliferation.eu/middleEastSeminar2012/firstSeminar) and [www.nonproliferation.eu/middleEastSeminar2012/secondSeminar](http://www.nonproliferation.eu/middleEastSeminar2012/secondSeminar).

[nonproliferation.org](http://nonproliferation.org)



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