

IMPLEMENTATION OF THE CONCLUSIONS AND RECOMMENDATIONS
FOR FOLLOW-ON ACTIONS
ADOPTED AT THE 2010 NPT REVIEW CONFERENCE
DISARMAMENT ACTIONS 1-22
2015 MONITORING REPORT



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TABLE OF CONTENTS

Introduction	1
Principles and Objectives	7
Action 1	11
Action 2	30
Action 3	37
Action 4	39
Action 5	42
Action 6	57
Action 7	58
Action 8	60
Action 9	62
Latin America and the Caribbean NWFZ	63
South Pacific NWFZ	63
Southeast Asian NWFZ	64
African NWFZ	67
Central Asian NWFZ	70
Action 10	73
Action 11	75
Action 12 and 13	77
Action 14	80
Action 15	82
Action 16	83
Action 17	90
Action 18	90
Action 19	93
Action 20	95
Action 21	96
Action 22	97
Middle East/1995 Resolution	100

INTRODUCTION

The ninth Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) will convene on April 27-May 22, 2015, in New York. NPT states parties will engage in difficult negotiations aiming to agree on an assessment of the implementation of the treaty and decisions of past Review Conferences (RevCon), and to chart the course for the next review cycle. The previous RevCon 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.¹ 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 fourth 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 2014 to April 2015 and provides background on a number of issues.

The Action Plan is expected to serve as the basis for review at the 2015 NPT RevCon. However, on the eve of the conference, the divergence of views among states parties on what constitutes an appropriate pace of implementation of the plan, particularly the disarmament section, shows no signs of decreasing. In their latest joint statement, the nuclear weapon states (NWS) confirm that they have taken a long-range view of the Action Plan, arguing that it was adopted “as a roadmap for long term action.”² Many of the non-nuclear weapon states (NNWS) do not share this view, especially as it is unclear what the “long term” means, expressed in years or review cycles. While the dissatisfaction with the slow rate of progress on disarmament is widely shared, there is also no agreement among the NNWS themselves as to the reasonable timeline for the implementation of the Action Plan, which will further complicate its review. Linked to this is the question of the future of the Action Plan, and states so far have addressed it in a very limited fashion. Even if the NNWS were to accept the Action Plan as a long-term roadmap, a simple reaffirmation, or a “rollover,” at the Review Conference would not be enough. States parties need to decide how to update and amend the Action Plan, possibly by assigning more specific targets and timelines to some items and identifying priority actions for the next five years.

The focus on the humanitarian impact of nuclear weapons (HINW) continued to gain momentum in the past year, and the humanitarian discourse is likely to be very significant at the Review Conference. At the 2014 session of the UN First Committee, 155 states signed on to the joint statement on the humanitarian consequences of nuclear weapons delivered by New Zealand, and 158 states (including non-NPT parties) attended the third HINW Conference held in Vienna, Austria, in December 2014. For the first time, two NWS—the United States and United Kingdom—

¹ 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.

² Joint Statement from the Nuclear-Weapon States at the London P5 Conference, February 6, 2015, available at www.state.gov/r/pa/prs/ps/2015/02/237273.htm.

attended the HINW Conference in a move that was widely welcomed by the NNWS. At the closing of the Vienna Conference, Austria called on NPT parties to “pursue effective measures to fill the legal gap for the prohibition and elimination of nuclear weapons” and pledged to cooperate with all relevant stakeholders on this matter. Subsequently, more than 60 countries, including the 33 states members of the Community of Latin American and the Caribbean States (CELAC), have endorsed the Austrian Pledge. This growing push for a legal prohibition of nuclear weapons stands in stark contrast to the deadlock in the US-Russia discussions on further arms control steps, and the pessimism regarding disarmament generated by the drastic worsening of relations between Russia and the West. The interplay of these two trends is likely to shape the discussion of the future of disarmament and the Action Plan at the Review Conference.

Overview of Findings

Overall progress in implementing disarmament action items since 2010 has been very limited, though in the past year some positive developments took place with regard to transparency and reporting. Still, these measures are not likely to compensate for the lack of progress in other areas.

During the 2014-2015 reporting period, there have been no doctrinal changes suggesting 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. In their statements at international and national fora, NWS representatives have been underlining the importance of nuclear weapons for their security. In his February 2015 speech, French President François Hollande highlighted the role of nuclear weapons not only in guaranteeing national security but also allowing France “freedom of action” without fear of blackmail.³ At the 2014 NPT Preparatory Committee meeting, a UK representative stated, “nuclear weapons have helped to guarantee our security, and that of our allies, for decades.”⁴ France and Russia have also been emphasizing general and complete disarmament, rather than nuclear disarmament, suggesting that it is the truly “neglected” part of NPT Article VI obligations that needs to be given priority.

The modernization of arsenals in the NWS is ongoing with respect to the development and production of new delivery systems, upgrades of existing ones, increased “effectiveness” of weapons, and extension of their lifetime. While some projects are conducted to ensure the safety of nuclear weapons, overall, these developments signal continued, long-term reliance on nuclear weapons and appear to contradict the commitments under Action 1. In the past year, Russia has continued to post advances in the production of new strategic nuclear submarines (SSBNs) and deployment of new intercontinental ballistic missiles (ICBMs). France has continued the upgrade of its nuclear-capable aircraft and deployment of new submarine-launched nuclear missiles, and has also initiated studies on a new air-launched nuclear cruise missile.⁵ China continues the development of the sea-based leg of its nuclear arsenal. In the United States, a number of modernization projects currently remain at the research and development stage. The plans, however, are ambitious, and the

³ “Discours sur la dissuasion nucléaire,” Élysée, February 19, 2015, <http://www.elysee.fr/declarations/article/discours-sur-la-dissuasion-nucleaire-deplacement-aupres-des-forces-aeriennes-strategiques-istres-3/>.

⁴ “Cluster 1 Issues Statement to the Third Preparatory Committee of the 2015 NPT Review Conference by Dr. Matthew Rowland, Ambassador and Permanent Representative to the Conference on Disarmament,” New York, May 2, 2014, http://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom14/statements/2May_UK.pdf.

⁵ “Discours de clôture du colloque pour les 50 ans de la dissuasion,” French Ministry of Defense, November 21, 2014.

United States has what experts describe as the “largest and most expensive nuclear weapons modernization program,”⁶ which foresees the upgrade of the entire nuclear triad.

Nuclear Weapons Reductions

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.

At the same time, the United States and Russia continue to reduce the number of their deployed strategic nuclear weapons under the New START, which covers the first part of Action 4. The outlook for further bilateral US-Russian arms control, however, is dim due to the differences in priorities, the worsening of the US-Russian relations after the latter’s intervention in Ukraine, and domestic politics in the United States. Furthermore, the United States has accused Russia of violating the 1987 Intermediate Nuclear Forces Treaty, which bans nuclear missiles of intermediate range, and the two sides have not been able to resolve their disagreement on the matter. The NATO-Russian consultations on missile defense and non-strategic nuclear weapons also appeared to have reached a dead end even before cooperation was officially suspended in spring 2014.

Transparency, Reporting, and Verification

The NWS have achieved limited progress on transparency and reporting through their joint consultations (the “P5 Process”) called for in Action 5.⁷ At the 2014 PrepCom session, the five states submitted their reports under the standard form they had developed jointly pursuant to Action 21. The categories (headings) in the reports are very broad and include national security policies and nuclear doctrines; nuclear weapons, arms control and verification, and transparency and confidence building measures. Although producing standardized reporting is a welcome step, for the most part, the reports contained information that had already been available previously. Furthermore, as the views on transparency among the NWS continue to differ, the amount of information and level of detail provided in the reports vary significantly. Reflective of the pre-existing trend, the United States provided the most information on its nuclear arsenal and policies, including an update on the total number of nuclear weapons in its stockpile and the number of warheads dismantled between 2009 and 2013. China, on the other hand, did not report any specifics regarding its arsenal, but described at length its national security doctrine. Most recently, France has for the first time revealed the number of its submarine- and air-launched nuclear missiles, and announced that it would organize visits to the former land-based missiles sites.

The NWS have also continued to brief each other about their verification experiences, with China sharing for the first time information on its nuclear disarmament verification related research. In cooperation with the Nuclear Threat Initiative, the United States has launched International Partnership for Nuclear Disarmament Verification. The new initiative aims to engage both nuclear- and non-nuclear

⁶ 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/.

⁷ 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. See also Andrea Berger, “The P5 Dialogue: Five Years On,” Occasional Paper, Royal United Services Institute, July 2014.

weapon states to improve the understanding of disarmament verification challenges and seek solutions.⁸ There are still no new joint verification projects being launched as a result of the P5 consultations.

The development of a common glossary of key nuclear terms has progressed at a slower pace than initially planned, but the five NWS have concluded the first edition and are planning to present it at the Review Conference.⁹ Having common terminology would indeed be important for negotiating future multilateral nuclear arms control and disarmament agreements. The P5 have indicated, however, that the glossary is not meant to be used for actual negotiations and instead emphasize the confidence-building aspect of their work on common terms. Overall, the results of the consultations among the nuclear weapon states have been falling short of the expectations of the NNWS, and it would be important for the P5 to come to the RevCon with a forward-looking agenda regarding the future of this process.

Nuclear-Weapon-Free Zones

A significant positive development on Action 9 is the signature by all five NWS of the protocol to the Central Asian Nuclear-Weapon-Free Zone (CANWFZ) treaty, which took place during a closed ceremony on the sidelines of the 2014 PrepCom session. France, Russia, and the United Kingdom, however, have attached interpretative statements and/or reservations to their respective signatures. The United States is likely to express reservations at the ratification stage. France and the United Kingdom have already ratified the protocol, and Russia has submitted it to its Parliament for ratification. On the other hand, the NWS and ASEAN members have not resolved their disagreement on the signature of the protocol to the Bangkok Treaty, as some of the Southeast Asian NWFZ parties continue to oppose interpretative statements and reservations. 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 again flagged as a problematic area in the context of advancing NPT universality as well as implementing NWFZ treaties.

Finally, after some hopeful signs in 2013-early 2014, progress in implementing the recommendations concerning the establishment of a zone free of nuclear weapons and all other WMD in the Middle East appears to have stalled. 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. Recommendations on the Middle East were crucial to the outcome at the 2010 Review Conference, and failure to convene the regional conference risks undermining the consensus achieved in 2010 and has implications for the NPT regime at large. 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. In October 2013, the facilitator initiated a series of multilateral consultations where regional states and the co-conveners reportedly had begun to discuss conference agenda, modalities, and potential outcomes. However, after four rounds, the meetings halted without adopting the agenda or setting the date for the regional conference. NPT states parties are now facing the question of how to address the Middle East issue at the RevCon and what measures – if any – they could agree upon as part of an updated Action Plan to help advance the establishment of a WMD-free zone in the region.

⁸ See “State Department Facts on Nuclear Disarmament Verification Initiative,” US Department of State, December 4, 2014, <http://iipdigital.usembassy.gov/st/english/texttrans/2014/12/20141204311706.html#axzz3U2YEcpiB>.

⁹ Discussed in Berger, “The P5 Dialogue: Five Years On.”

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.¹⁰ 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

¹⁰ 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. Such ambiguity in targets and deadlines is not surprising, but, as mentioned above, it is feeding 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 dimension 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 was transforming the NPT debate with regard to nuclear disarmament. Met with stiff NWS opposition, the initiative focused on the 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. This issue will be prominent at the 2015 Review Conference and has the potential to reshape the debate in the longer term.

Over the past year, the NWS attitudes have shifted somewhat, as the United States and then the United Kingdom decided to attend the third humanitarian impact conference in Vienna in December 2014.¹¹ China sent an “unofficial” representative to the Vienna Conference, but France and Russia continue to be openly critical of the initiative. All of the NWS, however, along with several allies, have expressed concern about the humanitarian initiative being an attempt to begin a negotiation process on a nuclear weapons convention or ban, which they argue would undermine the NPT, the Action Plan, and the step-by-step approach to nuclear disarmament. Many of the NNWS, for their part, have pointed out that the humanitarian dimension is referenced in Part A of the 2010 Action Plan itself, and that rather than undermining the Action Plan or the NPT, the initiative is meant to strengthen the treaty. While many countries support the idea of negotiating a

¹¹ The United States reportedly considered attending the Nayarit conference and held consultations with Mexico regarding the agenda, but ultimately, the sides did not agree, and the United States did not attend. Conversations with officials and experts familiar with the issue, February and March 2014.

legal instrument that would prohibit nuclear weapons, the proposals are framed as in line with implementing Article VI of the NPT, which commits parties to pursue negotiations on effective measures relating to nuclear disarmament.¹²

Humanitarian Impact of Nuclear Weapons: Statements and Conferences

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.¹³ Support continued to grow, and four more joint statements on the humanitarian dimension were delivered since May 2012.¹⁴ 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. The most recent joint statement, delivered again by New Zealand at the 2014 First Committee session, was supported by 155 nations. 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. The latter formulation, "under any circumstances," has proved problematic, however, for a number of US allies who claim to rely on the US extended nuclear deterrence.¹⁵ 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 and 2014 First Committee sessions, Australia ended up delivering a separate statement on the humanitarian dimension, supported by 17 nations in 2013 and 20 in 2014, most of them NATO members.¹⁶ Japan, facing domestic pressure, joined both the Australian and New Zealand statements.

¹² See, in particular, the working paper submitted by the New Agenda Coalition to the 2014 NPT Preparatory Committee session, which invites states parties to discuss options for a "clear, legally-binding, multilateral commitment to achieve nuclear disarmament." "Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons," Working Paper submitted by Ireland on behalf of the New Agenda Coalition, NPT/CONF.2015/PC.III/WP.18, April 2, 2014, www.un.org/ga/search/view_doc.asp?symbol=NPT/CONF.2015/PC.III/WP.18.

¹³ "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.

¹⁴ See "Joint Statement on the Humanitarian Consequences of Nuclear Weapons," Delivered by New Zealand on behalf of 155 states, 69th Session of the UN General Assembly First Committee, New York, October 20, 2014, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/statements/20Oct_NewZealand.pdf; "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, 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, 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, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/statements/22Oct_Switzerland.pdf.

¹⁵ 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.

¹⁶ "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 reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/statements/21Oct_Australia2.pdf.

Three international conferences on the Humanitarian Impact of Nuclear Weapons (HINW) have taken place to date. The conferences have addressed such issues as immediate effects of nuclear weapons use, national and international preparedness for response, potential long-term impacts (including climate and food security), and the risk of accidental use of nuclear weapons. On March 4-5, 2013, Norway hosted the first international conference on the Humanitarian Impact of Nuclear Weapons (HINW). 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."¹⁷

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.¹⁸ 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."¹⁹ 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 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 HINW conference took place in Vienna on December 8-9, 2014. Representatives of 158 states attended the conference, along with representatives of the United Nations, the International Committee of the Red Cross, the Red Cross and Red Crescent movement, and a large number of civil society organizations. In addition to the continuing discussion of the effects of nuclear weapons use and testing, as well as the risk of use, the Vienna conference also featured an overview of existing norms under the international law pertaining to the humanitarian consequences of nuclear weapons.²⁰ Legal experts discussed the applicability of international health law, environmental law, and international humanitarian law in case of use of nuclear weapons and recommended that this issue be examined further. The Chair's summary reiterated some of the conclusions from the previous conferences, highlighted the effects of nuclear testing and the risk of accidental,

¹⁷ 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?id=716343.

¹⁸ The list of participants is available on the conference site: www.sre.gob.mx/en/images/stories/cih/registracionparticipopan.pdf.

¹⁹ 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.

²⁰ For the full program of the Vienna conference, see Austrian Federal Ministry for Europe, Integration and Foreign Affairs, www.bmeia.gv.at/fileadmin/user_upload/Zentrale/Aussenpolitik/Abruestung/HINW14vienna-Program.pdf.

unauthorized or intentional use of nuclear weapons, and argued that “the suffering caused by nuclear weapons is not only a legal matter, it necessitates a moral appraisal.”²¹

At the end of the Vienna conference, after the Chair’s summary, Secretary-General of Austria’s Foreign Ministry Michael Linhart introduced the Austrian Pledge, committing his country to present the findings and evidence from the Vienna Conference to the 2015 NPT Review Conference and other relevant fora. Austria called on all NPT states parties to renew their commitment to implementing Article VI and to “pursue effective measures to fill the legal gap for the prohibition and elimination of nuclear weapons.” Austria further pledged to cooperate with all stakeholders to achieve the goal of the prohibition and elimination of nuclear weapons.²² The pledge was greeted by civil society and a number of states attending the conference. By April 2015, over 60 states had endorsed the Austrian Pledge, most notably the 33 members of the Community of Latin American and the Caribbean States.²³ It is not clear, however, what actions these states plan to pursue in the near future to fulfill the pledge.

Universality

The most “actionable” phrasing in the Principles and Objectives is found in Point vi on universality of the NPT. Palestine became party to the NPT on February 10, 2015.²⁴ Other than that, there has been no progress on universality 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 seems 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”).²⁵ 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.²⁶ 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.

²¹ Report and Summary of Findings of the Conference, Vienna Conference on the Humanitarian Impact of Nuclear Weapons, December 8-9, 2014,

www.bmeia.gv.at/fileadmin/user_upload/Zentrale/Aussenpolitik/Abruestung/HINW14/HINW14_Chair_s_Summary.pdf.

²² Austrian Pledge, Vienna Conference on the Humanitarian Impact of Nuclear Weapons, December 8-9, 2014,

www.bmeia.gv.at/fileadmin/user_upload/Zentrale/Aussenpolitik/Abruestung/HINW14/HINW14_Austrian_Pledge.pdf.

²³ See the full list of states that have endorsed the Austrian Pledge on the ICAN website at www.icanw.org/pledge/.

²⁴ Information courtesy of the United Nations Office for Disarmament Affairs.

²⁵ 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.

²⁶ “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.

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 are, inevitably, 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 report reviews 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.

Nuclear arsenal modernization programs continue to pose a problem in the context of Action 1. On the one hand, warhead refurbishment, stewardship, and life extension programs are necessary for safety and reflective of nuclear weapon states’ decisions not to develop, produce and test new, qualitatively different nuclear warheads. On the other hand, some of the NWS 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. All of the NWS are also modernizing or planning to modernize their delivery systems. These programs ensure extended ranges of delivery vehicles, their greater effectiveness, and longer service life. Taken together, expensive, multi-year modernization and life extension programs signify commitment to nuclear arsenals over the long-term and project the existence of, and reliance on, nuclear weapons for decades ahead.²⁷

China

China maintains a policy of minimum nuclear deterrence. It has for decades been considered to possess the smallest nuclear arsenal among the five nuclear weapon states, but, with an estimated 250 warheads, the size of China’s nuclear arsenal recently surpassed that of the United Kingdom.²⁸ All information on its nuclear weapons stockpile, however, is based on outside estimates, as China

²⁷ For a comprehensive study of modernization efforts in nuclear weapon possessor states, please see Ray Acheson, ed., *Assuring Destruction Forever*, Reaching Critical Will, March 2012. See also Hans M Kristensen, “Nuclear Weapons Modernization: A Threat to the NPT?” *Arms Control Today*, May 1, 2014, www.armscontrol.org/act/2014_05/Nuclear-Weapons-Modernization-A-Threat-to-the-NPT.

²⁸ 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>.

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

According to China's 2013 White Paper, China is improving its missile force and strengthening its capabilities.²⁹ 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.³⁰ 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.³¹ 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 increase the range and survivability of China's land-based nuclear forces.³² China is also developing a new road-mobile ICBM, DF-41, "possibly capable of carrying multiple independently targetable re-entry vehicles (MIRV)."³³ In 2013 and 2014, Chinese bloggers posted images of new transporter-erector launchers (TELs), which appear to be meant for a number of different missiles, such as DF-31, DF-31A, and the expected DF-41.³⁴ The development of TELs will improve the effectiveness of missile transport and launch.

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 2014.³⁵ However, there have been no reports of the SLBM completion. 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, and up to five more are expected to enter service over the next decade.³⁶ 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."³⁷

²⁹ "The Diversified Employment of China's Armed Forces," Information Office of the State Council, The People's Republic of China, April 2013, www.scio.gov.cn/zfbps/gfbps/2013/Document/1312829/1312829.htm.

³⁰ "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; 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>.

³¹ Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 79.

³² Ibid, pp. 81-82.

³³ "Military and Security Developments Involving the People's Republic of China 2014," Annual Report to Congress, US Department of Defense, 2014, www.defense.gov/pubs/2014_DoD_China_Report.pdf.

³⁴ Jeffrey Lewis, "China's Missile Forces," in *Paper Tigers: China's Nuclear Posture*, Adelphi 446 (IISS: 2014), p. 113.

³⁵ 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=2013311110015 and Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 83.

³⁶ Kristensen and Norris, "Chinese Nuclear Forces, 2013," p. 83 and "Military and Security Developments Involving the People's Republic of China 2014."

³⁷ "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.

China maintains an official moratorium on nuclear testing since 1996, and does not appear to be developing or producing new nuclear warheads.³⁸ 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 1990.³⁹

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 a maximum of 300 nuclear warheads in its nuclear weapons arsenal, a cap announced in 2008 by President Nicholas Sarkozy. According to a French working paper submitted to the 2010 NPT Review Conference, the arsenal is “fewer than 300” and France does not keep any nuclear warheads in reserve.⁴⁰ In February 2015, President François Hollande reaffirmed this upper limit.⁴¹ France eliminated the ground-based leg of its nuclear triad in 1996, and deploys nuclear weapons on submarines (a fleet of four) and fighter aircraft.⁴²

Released in 2013, France’s most recent White Paper on national defense (*Livre Blanc*) reaffirms the role of nuclear weapons in national security and describes nuclear deterrence (dissuasion) as the ultimate guarantee of French sovereignty.⁴³ 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.”⁴⁴ Nuclear deterrence is also supposed to protect France’s freedom of decision-making and freedom of action “within the framework of [its] international responsibilities.”⁴⁵ France appears, therefore, to place nuclear weapons at the heart of its national security and does not rule out their use against non-nuclear

³⁸ 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; Jeffrey Lewis, *The Minimum Means of Reprisal: China’s Search for Security in the Nuclear Age* (The MIT Press, 2007).

³⁹ “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 and “Countries: China,” IPFM blog, <http://fissilematerials.org/countries/china.html>.

⁴⁰ “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.

⁴¹ “Discours sur la dissuasion nucléaire,” Élysée, February 19, 2015 <http://www.elysee.fr/declarations/article/discours-sur-la-dissuasion-nucleaire-deplacement-aupres-des-forces-aeriennes-strategiques-istres-3/>

⁴² 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; “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.

⁴³ 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.

⁴⁴ 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.

⁴⁵ 2013 *Livre Blanc*, p. 75.

weapon states. French President Francois Hollande has stated that neither the fundamental elements of the doctrine nor the tools of deterrence would be changed under his administration.⁴⁶

France deploys nuclear weapons on two types of fighter aircraft: the older Mirage 2000N and the newer Rafale B. In his February 2015 speech on nuclear deterrence, President Hollande stated that France plans to replace the last Mirages with Rafales by 2018.⁴⁷ In 2011, France completed the deployment of modernized air-launched cruise missiles (ALCM) called the *air-sol moyenne portée-améliorée* (ASMP/A), equipped with a new “robust” warhead, TNA.⁴⁸ In February 2015, France announced for the first time that it has 54 ASMP/A delivery systems.⁴⁹ In 2014, French Defense Minister Jean-Yves Le Drian stated that France had initiated studies on a new airborne nuclear-tipped missile to replace the ASMP/A, with a focus on accelerating research on hypersonic speed.⁵⁰ The successor missile, *air-sol nucléaire fourth-generation* (ASN4G),⁵¹ will enter service in the 2030s. Before it is replaced, the ASMP/A will be upgraded in the mid-2020s.⁵²

France possesses four SSBNs and three sets of 16 submarine-launched ballistic missiles (SLBM).⁵³ *Le Terrible*, France’s fourth SSBN, entered service in September 2010. It deploys new SLBMs with extended range (M51.1). In 2010, France began to transition the SLBMs deployed on its other three SSBNs from the M45 to the M51 missiles.⁵⁴ The transition is ongoing and will be completed within the next ten years. According to the 2008 *Livre Blanc*, France is planning to deploy an upgraded version of M51.1, the M51.2, which will be mated with a new warhead, the TNO (*Tête nucléaire océanique*), developed on the basis of a “concept validated during the final series of nuclear tests in 1995 (sic)”.⁵⁵ The first M51.2 missiles will be deployed on *Le Triomphant* starting in 2016 although the year of deployment was recently revised to 2016.⁵⁶ Studies for a third generation SSBN are ongoing. While no SSBN procurement decision has been made, in July 2013, France decided to procure a further improved SLBM (M51.3) because it will reach initial operational capability before the current SSBNs become obsolete.⁵⁷

⁴⁶ “Hollande endosse la dissuasion nucléaire,” December 23, 2011, Le Point, www.lepoint.fr/editos-du-point/jean-guisnel/hollande-endosse-la-dissuasion-nucleaire-23-12-2011-1411933_53.php.

⁴⁷ “Discours sur la dissuasion nucléaire,” Élysée, February 19, 2015, www.elysee.fr/declarations/article/discours-sur-la-dissuasion-nucleaire-deplacement-aupres-des-forces-aeriennes-strategiques-istres-3/.

⁴⁸ “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.

⁴⁹ “Discours sur la dissuasion nucléaire,” President Francois Hollande’s speech at Istres, February 19, 2015, www.elysee.fr/declarations/article/discours-sur-la-dissuasion-nucleaire-deplacement-aupres-des-forces-aeriennes-strategiques-istres-3/.

⁵⁰ “Discours de clôture du colloque pour les 50 ans de la dissuasion,” French Ministry of Defense, November 21, 2014, www.defense.gouv.fr/ministre/prises-de-parole-du-ministre/prises-de-parole-de-m.-jean-yves-le-drian/discours-de-cloture-du-colloque-pour-les-50-ans-de-la-dissuasion

⁵¹ Pierre Tran, “France Studies Nuclear Missile Replacement” *Defense News*, November 29, 2014, archive.defensenews.com/article/20141129/DEFREG01/311290019/France-Studies-Nuclear-Missile-Replacement.

⁵² “Discours de clôture du colloque pour les 50 ans de la dissuasion,” French Ministry of Defense, 21 November 2014, www.defense.gouv.fr/ministre/prises-de-parole-du-ministre/prises-de-parole-de-m.-jean-yves-le-drian/discours-de-cloture-du-colloque-pour-les-50-ans-de-la-dissuasion.

⁵³ “Discours sur la dissuasion nucléaire,”

⁵⁴ Robert Norris, “French Nuclear Forces, 2008” *Bulletin of the Atomic Scientists* Vol. 64, No. 4 (September 2008).

⁵⁵ *Livre blanc du défense et sécurité nationale* (*The French White Paper on Defence and National Security*), 2008, p. 162.

⁵⁶ “Discours de clôture du colloque pour les 50 ans de la dissuasion,” French Ministry of Defense, November 21, 2014, www.defense.gouv.fr/ministre/prises-de-parole-du-ministre/prises-de-parole-de-m.-jean-yves-le-drian/discours-de-cloture-du-colloque-pour-les-50-ans-de-la-dissuasion.

⁵⁷ Ibid.

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.⁵⁸ Under the agreement, France and the UK are constructing at Valduc a radiographic and hydrodynamics facility called EPURE. The first high-energy laser experiments at EPURE were conducted in 2014.⁵⁹ Work on the UK side is also underway. In the 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.⁶⁰

Since 2008, France has not announced any further reductions in its nuclear arsenal. It is not party to any nuclear arms reduction agreements. France does not produce fissile material for weapons purposes. Production of plutonium ceased in 1992 and production of highly enriched uranium (HEU) ceased in 1996.⁶¹ France announced the dismantlement of its Marcoule and Pierrelatte facilities in 1996.⁶² 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 has one of the world’s two largest nuclear arsenals. Latest estimates from the Federation of American Scientists’ “Status of World Nuclear Forces” place the size of Russia’s arsenal, as of March 2015, at about 1,780 deployed strategic and 2,520 reserve (strategic and non-strategic) warheads, to an estimated total of about 4,300 warheads, both deployed and in storage. There are also an estimated 3,200 warheads awaiting dismantlement.⁶³

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 800.⁶⁴ As of September 2014, Russia deployed 515 strategic missiles and bombers, and 1,582

⁵⁸Adrian 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.

⁵⁹ “UK-France co-operation on nuclear weapons set to deepen as France’s Laser Mégajoule becomes operational” Nuclear Information Service, December 9, 2014, www.nuclearinfo.org/article/development/uk-%E2%80%93-france-co-operation-nuclear-weapons-set-deepen-frances-laser-m%C3%A9gajoule

⁶⁰ “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.

⁶¹ “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.

⁶² “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.

⁶³ “Status of World Nuclear Forces,” Federation of American Scientists, Updated March 2015, fas.org/issues/nuclear-weapons/status-world-nuclear-forces/.

⁶⁴ New START text, www.state.gov/documents/organization/140035.pdf

warheads.⁶⁵ New START has extensive bilateral verification provisions, but is not subject to verification by any third party.

Russia released a new military doctrine in December 2014. However, it made “no change to the principles of using nuclear weapons,” established in the 2010 doctrine, which foresaw a role for nuclear weapons in a potential large-scale or regional war.⁶⁶ The 2014 doctrine repeats the 2010 text and 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.”⁶⁷ This is a somewhat higher 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.⁶⁸

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.”⁶⁹ 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 2020.⁷⁰ However, due to Russia’s current economic turmoil, some experts expect that Russia will have difficulty continuing to fund its modernization plan.⁷¹

Russia is in the process of complete restructuring of its land-based nuclear forces, and reportedly plans to replace 98 percent of them by 2021.⁷² It has been retiring SS-18, SS-19, and SS-25 land-based missiles, replacing them with SS-27s (Topol-M).⁷³ Russia completed deployment of the first generation of SS-27s in 2012 and is continuing deployment of the second generation SS-27s.⁷⁴ 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

⁶⁵ The number of deployed strategic warheads is lower than the FAS estimate due to different accounting rules under the New START. “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, 2015.

⁶⁶ Dmitri Trenin, “2014: Russia’s New Military Doctrine Tells It All,” Carnegie Moscow Center, December 29, 2014, <http://carnegie.ru/eurasiaoutlook/?fa=57607>.

⁶⁷ Russian Federation Presidential edict, “The Military Doctrine of the Russian Federation,” December 26, 2014.

⁶⁸ 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.

⁶⁹ Interfax News Agency, Russia and CIS Military Weekly, August 6, 2010, accessed through Lexis-Nexis.

⁷⁰ 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.

⁷¹ Hans Kristensen, “Nuclear Weapons Modernization: A Threat to the NPT?” *Arms Control Today*, May 1, 2014, www.armscontrol.org/act/2014_05/Nuclear-Weapons-Modernization-A-Threat-to-the-NPT.

⁷² 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_rearmament_policy_shift_or_business_as_usual/.

⁷³ Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: Russian Nuclear Forces, 2011,” *Bulletin of the Atomic Scientists*, Vol. 67, no. 3 (May/June 2011), pp. 67-74.

⁷⁴ 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. 76.

independently-targeted re-entry vehicles (MIRV).⁷⁵ The deployment of the road-mobile version of RS-24 began in March 2010.⁷⁶ In December 2013, Russia started testing the silo-based version of RS-24 Yars, and its deployment began in 2014⁷⁷

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.⁷⁸ The development of this ICBM (known as Sarmat) is on track to be completed in 2020, and the new missile is expected to be ready for testing in 2015.⁷⁹ Sarmat will eventually replace SS-18 (“Satan”).⁸⁰ The second project is the development of RS-26, a new solid-fuel ICBM described as a lightweight version of the RS-24 Yars. 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 them.⁸¹ As of March 2014, the RS-26 has been flight-tested and is expected to be deployed by 2017.⁸²

In 2013, Russia began research and development of a new railway based ICBM (banned under START II, but allowed under New START). Russian officials’ statements suggest that the decision was in response to the US Prompt Global Strike plans as well as plans to place elements of ballistic missile defense system in Eastern Europe.⁸³ The development of the new rail-mobile missile system,

⁷⁵ Kristensen and Norris, “Russian Nuclear Forces, 2011.”

⁷⁶ 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; quoting «Арсенал прирастает Ярсам», *Военно-Промышленный Курьер*, July 6, 2011, <http://vpk-news.ru/articles/7844>; RIA Novosti, May 21, 2012.

⁷⁷ “Ракета ‘Ярс’ шахтного базирования успешно поразила цель” (“Silo-Based Yars Missile Successfully Hits Target”), Interfax, December 24, 2013, www.interfax.ru/russia/348608; Pavel Podvig, “Tracking down road-mobile missiles,” Russian Strategic Forces blog, January 13, 2015 http://russianforces.org/blog/2015/01/tracking_down_road-mobile_miss.shtml.

⁷⁸ “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.

⁷⁹ Pavel Podvig, “Sarmat Tests to Begin in 2015,” Russian Strategic Nuclear Forces blog, January 26, 2015, http://russianforces.org/blog/2015/01/sarmat_tests_to_begin_in_2015.shtml.

⁸⁰ The new missile is expected to weigh 100 tons and be capable of carrying a 10-ton payload. “РБСН России: Перспективы” (“Russian Strategic Rocket Forces: Prospects”), Novosti VPK, February 27, 2014, http://vpk.name/news/106052_rvs_n_rossii_perspektivy.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 - РБСН” (“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.

⁸¹ “Ракета-прототип испытана” (“Missile Prototype Tested”), Interfax, May 23, 2012, 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.

⁸² Hans Kristensen and Robert S Norris, “Russia’s Nuclear Forces, 2014,” *Bulletin of the Atomic Scientists*, Vol. 7 No. 2 (March/April 2014), p. 78.

⁸³ Pavel Podvig, “Rail-Mobile ICBMs Are Likely to Make a Comeback,” Russian Strategic Forces blog, December 18, 2013, http://russianforces.org/blog/2013/12/rail-mobile_icbms_are_likely_t.shtml and “Источник: один состав БЖРК ‘Баргузин’ сможет нести шесть баллистических ракет” [“One Barguzin Rail-Mobile Missile Regiment can carry six ballistic missiles”], TASS News Agency, December 26, 2014, <http://tass.ru/armiya-i-opk/1674061>

known as Barguzin, is expected to be completed by 2018.⁸⁴ Reports suggest that each regimen (train) “will include six Yars or Yars-M missiles.”⁸⁵

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.”⁸⁶ This new missile was officially accepted for service in January 2013 and is beginning to be deployed on the new Borey class strategic submarines.⁸⁷ In late October and early November 2014, Russia successfully tested Bulava twice, launched from “Yurii Dolgorukii” first and “Alexander Nevsky” second.⁸⁸ Russia has commissioned 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.⁸⁹ The first Borey class submarine, “Yurii Dolgorukii,” officially entered service in January 2013 and received Bulava SLBMs in 2014.⁹⁰ 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 entered service in December 2014.⁹¹ Construction of three Project 955A submarines, “Knyaz Vladimir” (July 2012, previously known as “Sviatitel Nikolai”), “Knyaz Oleg” (July 2014), and “Generalissimus Suvorov” (December 2014) is ongoing.⁹² Russia plans to complete eight Borey class submarines by 2020.⁹³ Four more Borey class submarines are expected to be commissioned over the next ten years.⁹⁴

Russia completed the modernization and life extension of its six older, Delta IV class submarines, which began in 2007.⁹⁵ This included “the installation of the new modification of

⁸⁴ Pavel Podvig, “Rail-Mobile ICBM, Barguzin, Gets a Green Light,” Russian Strategic Forces blog, December 17, 2014, http://russianforces.org/blog/2014/12/rail-mobile_icbm_barguzin_gets.shtml

⁸⁵ Pavel Podvig, “Some details about the rail-mobile Barguzin,” Russian Strategic Forces blog, December 26, 2014, http://russianforces.org/blog/2014/12/some_details_about_rail-mobile.shtml.

⁸⁶ “Defense Ministry Signs Bulava Missile Contract,” RIA Novosti, January 24, 2012.

⁸⁷ “Р-30 «Булава» - российская МБР морского базирования” (“R-30 ‘Bulava’ Is a Russian SLBM”), Novosti VPK, January 15, 2013, vpk.name/news/82443_r30_bulava_rossiiskaya_mbr_morskogo_bazirovaniya.html

⁸⁸ “«Булава» и «Синева» летят на восток,” (“‘Bulava’ and ‘Sineva’ Are Flying East”), RIA Novosti, November 6, 2014, ria.ru/analytics/20141106/1032049842.html.

⁸⁹ 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, russianforces.org/blog/2013/02/project_955a_submarines_to_car.shtml.

⁹⁰ 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

⁹¹ “Тосиспытания АПА «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; 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; “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_shvartovim_iskaniyam.html

⁹² Pavel Podvig, “Strategic Fleet,” Russian Strategic Forces blog, January 8, 2015, <http://russianforces.org/navy/>.

⁹³ “Атомный крейсер ‘Александр Невский’ передан российскому флоту” (“‘Alexander Nevsky’ SSBN Transferred to Russian Navy”), Interfax, December 23, 2013, www.interfax.ru/russia/348387.

⁹⁴ Dmitry Gorenburg, “Russian naval shipbuilding plans: Rebuilding a Blue Water Navy,” Russian Military Reform blog, January 23, 2015, russiamil.wordpress.com/2015/01/23/russian-naval-shipbuilding-plans-rebuilding-a-blue-water-navy/.

⁹⁵ Kristensen and Norris, “Russia’s Nuclear Forces, 2014,” p. 80.

the RSM-54 Sineva missile.”⁹⁶ The “Yekaterinburg” SSBN, damaged in a fire in 2011, underwent repairs and life-extension upgrades, and returned to service in December 2014. 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.⁹⁷ The navy is planning to retire the three remaining Delta III submarines by 2020 as well as all Delta IV submarines during the 2020s to be replaced with 12 Borey class submarines.⁹⁸

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.⁹⁹ After temporary setbacks, Russia’s Air Force plans to complete the modernization of strategic bombers, Tu-160, by 2020. The upgrade of one Tu-160 has been completed, and the bomber made its first flight on November 16, 2014.¹⁰⁰ Finally, research and development is underway on a new strategic bomber (currently known as PAK DA): the first of these new bombers is expected to be completed and tested in 2019 and deployed by 2025.¹⁰¹

Recent accusations of Russia violating the Intermediate Nuclear Forces (INF) Treaty have led to concerns among observers about the possibility of Russia withdrawing from the INF. In its annual compliance report, released in July 2014, US State Department concluded that Russia was “in violation of its obligations under the INF Treaty,” which bans missiles with a range of 500 km to 5,500 km.¹⁰² The report suggested that Russia had produced and flight-tested a ground-launched cruise missile with a range prohibited under the INF; no further details have been made public. The United States reportedly had been investigating this cruise missile since its first test in 2007, but officially raised concerns with Russia in 2013.¹⁰³ Russia has officially denied violating the INF Treaty and in turn highlighted own concerns about the US compliance, citing the tests of target missiles for

⁹⁶ 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.

⁹⁷ Pavel 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 and “Liner SLBM Explained,” Russian Strategic Nuclear Forces, October 4, 2011, http://russianforces.org/blog/2011/10/liner_slbm_explained.shtml.

⁹⁸ Dmitry Gorenburg, “Russian naval shipbuilding plans: Rebuilding a Blue Water Navy,” Russian Military Reform blog, January 23, 2015, <https://russiamil.wordpress.com/2015/01/23/russian-naval-shipbuilding-plans-rebuilding-a-blue-water-navy/>.

⁹⁹ 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; 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; 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.

¹⁰⁰ Gareth Jennings, “Russia flies first radar- and avionics- upgraded Tu-160 bomber,” HIS Jane’s 360, November 20, 2014, <http://www.janes.com/article/46087/russia-flies-first-radar-and-avionics-upgraded-tu-160-bomber>.

¹⁰¹ Pavel Podvig, “Plans for the new strategic bomber,” Russian Strategic Forces blog, May 22, 2014, russianforces.org/blog/2014/05/plans_for_the_new_strategic_bo.shtml.

¹⁰² “Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments,” US Department of State, July 2014, p. 8.

¹⁰³ Hans M. Kristensen, “Russia Declared in Violation of INF Treaty: New Cruise Missile May be Deploying,” Strategic Security blog, Federation of American Scientists, July 30, 2014, fas.org/blogs/security/2014/07/russia-inf/.

the US ballistic missile defense.¹⁰⁴ The two sides have so far been unable to resolve the INF compliance problem, but it appears that for now Russia has decided not to leave the treaty.¹⁰⁵

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 describes its nuclear posture as a “minimum nuclear deterrent,” and the October 2010 Strategic Defence and Security Review (SDSR) indicates that the United Kingdom would consider using nuclear weapons only “in extreme circumstances of self-defence, including the defence of NATO [North Atlantic Treaty Organization] allies.”¹⁰⁶ 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 those non-proliferation obligations.”¹⁰⁷ The UK also reserves the right to revise this position in the event of “future threat, development and proliferation” of chemical and biological weapons.¹⁰⁸

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.”¹⁰⁹ 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.”¹¹⁰ 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.¹¹¹ 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 twelve), and the maximum number of warheads carried by each submarine from 48 to 40.¹¹² As of 2014, the United Kingdom had fewer than 225 warheads, all of which are of a single type.¹¹³

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

¹⁰⁴ Russian Ministry of Foreign Affairs Comment with Regard to Allegations of Russia’s Violation of the INF Treaty (in Russian), July 30, 2014, http://www.mid.ru/brp_4.nsf/newsline/E87CDC11A21A0F7644257D25005F8D11.

¹⁰⁵ Daniel Horner and Daryl Kymbal, “Arms Control in the Near Term: An Interview with Undersecretary of State Rose Gottemoeller,” *Arms Control Today*, November 2014, www.armscontrol.org/ACT/2014_11/Features/Interviews/Arms-Control-in-the-Near-Term-An-Interview-With-Undersecretary-Of-State-Rose-Gottemoeller.

¹⁰⁶ “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,” October 2010, p. 37.

¹⁰⁷ *Ibid.*, p. 38.

¹⁰⁸ *Ibid.*

¹⁰⁹ *Ibid.*

¹¹⁰ *Ibid.*

¹¹¹ Secretary of State for Defence Dr. Liam Fox, statement before the Parliament, June 29, 2011, www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110629/wmstext/110629m0001.htm.

¹¹² *Ibid.*

¹¹³ “The United Kingdom of Great Britain and Northern Ireland’s National Report Pursuant to Actions 5, 20, and 21 of the NPT Review Conference Final Document,” 2014, p. 3.

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 2024.¹¹⁴ 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.¹¹⁵ In early 2015, during the House of Commons debates, MPs from the Scottish National Party suggested that the next strategic defense and security review, which will be conducted after the 2015 general elections, revisit the decision on Trident renewal.¹¹⁶

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 2016.¹¹⁷ 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, Parliament approved the “initial gate” decision, allowing the assessment phase of the Trident replacement program to commence. Defense Secretary Liam Fox announced then 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.”¹¹⁸ Since then, the UK has been working on different aspect of the new SSBN design and collaborating with the United States on naval propulsion and design and procurement of missile components. In December 2014, UK Ministry of Defence (MOD) reported that, since the “initial gate” decision in May 2011, £1.2 had been spent on the Trident replacement program.¹¹⁹ There seem to be different estimates of the total cost of the Trident successor program depending on how the cost is calculated. MOD continues to estimate that projected costs for the entire successor submarine program remain within the initial 2006 estimates of £15-20 billion.¹²⁰ However, the Campaign for Nuclear Disarmament estimated the total cost of renewing Trident to be £100 billion.¹²¹ The CND’s

¹¹⁴ Hans M. Kristensen and Robert S. Norris, “Nuclear Notebook: British nuclear forces, 2011,” *Bulletin of the Atomic Scientists*, Vol. 67, no. 5 (September 2011).

¹¹⁵ “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.

¹¹⁶ Hansard, House of Commons debate, January 20, 2015, www.publications.parliament.uk/pa/cm201415/cmhansrd/cm150120/debtext/150120-0001.htm.

¹¹⁷ Ibid.

¹¹⁸ 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.

¹¹⁹ “The United Kingdoms’ Future Nuclear Deterrent: 2014 Update to Parliament,” Ministry of Defence, December 22, 2014, http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/390185/20141215-Successor_Update_to_Parliament_final.pdf.

¹²⁰ Claire Mills and Louisa Brooke-Holland, *The Trident Successor Programme: An Update* (London: House of Commons Library, 2015).

¹²¹ Richard Norton-Taylor, “Trident: Parliament Debates £100bn Project - at Last,” *The Guardian*, January 20, 2015.

estimate takes into account the costs of the deterrent over its lifetime, which includes submarine procurement, cost of the missile extension program, and estimates of in-service costs.¹²²

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. The project was initially expected to be completed in 2015, but is reportedly facing difficulties and is unlikely to meet this target.¹²³ 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 ongoing and will reportedly be completed in 2014.¹²⁴ 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 1995.¹²⁵ 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 possesses one of the world's two largest nuclear arsenals. The US arsenal consists of a triad of ICBMs, SLBMs, and heavy bombers, and includes a stockpile of fighter-delivered tactical nuclear weapons. In May 2010, the United States revealed for the first time the total number of warheads in its nuclear weapons stockpile, i.e., deployed and non-deployed, strategic and non-strategic, as of September 30, 2009.¹²⁶ In April 2014, the United States updated the information provided in May 2010. As of September 2013, the US nuclear weapons stockpile consisted of 4,804 warheads, but this number does not include the thousands of retired warheads awaiting dismantlement.¹²⁷ The fact sheet released at the 2014 NPT Preparatory Committee provides stockpile numbers for every year between 1962 and 2013 as well as warhead dismantlement figures (see Actions 2 and 3) for every year between 1994 and 2013.¹²⁸

The United States, together with the Russian Federation, is party to the New START agreement, which requires both to reduce, by 2018, their deployed strategic 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 800.¹²⁹ In April 2014, the Department of Defense (DOD) announced future changes in the composition of the US nuclear force structure in order to comply with New

¹²² "People not Trident-the economic case against Trident replacement," *CND*, March 2014.

¹²³ "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 and "Warhead Factory's Flagship Construction Project Placed 'On Hold,'" *Nuclear Information Service*, March 7, 2015, <http://www.nuclearinfo.org/article/awe-aldermaston/warhead-factorys-flagship-construction-project-placed-hold>.

¹²⁴ *Ibid.*

¹²⁵ See UK statement at the 2010 NPT Review Conference and SIPRI 2011 Yearbook, Annex A.

¹²⁶ "Fact Sheet: Increasing Transparency in the U.S. Nuclear Weapons Stockpile," US Department of Defense, May 3, 2010.

¹²⁷ "Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile," US Department of State, April 29, 2014.

<http://www.state.gov/documents/organization/225555.pdf>

¹²⁸ *Ibid.*

¹²⁹ New START text, www.state.gov/documents/organization/140035.pdf.

START limits by 2018.¹³⁰ By February 5, 2018, the DOD will transition today's triad to a force of 1,550 deployed warheads on 400 ICBMs, 240 SLBMs on 14 SSBNs, and 60 heavy bombers.¹³¹ To meet the above-mentioned treaty requirements, DOD will remove ICBMs from 50 silos, convert 4 SSBN launch tubes on each of the 14 SSBNs, and convert 30 B-52 heavy bombers to a conventional-only role.¹³² As of January 2015, the United States deployed 1,642 warheads on 447 ICBMs, 260 SLBMs, and 87 heavy bombers (see Action 4).¹³³

According to the US officials, current US nuclear policy continues to be guided by the "Prague Agenda" articulated by President Obama in his first major foreign policy speech in April 2009. The speech signaled a shift in US policy towards reducing 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."¹³⁴ The 2010 Nuclear Posture Review (NPR) included, for the first time, a negative security assurance 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 determining compliance with nuclear nonproliferation obligations 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."¹³⁵

In February 2011, the 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."¹³⁶ In January 2012, President Obama, with the DOD, 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.¹³⁷

In June 2013, following a speech in Berlin that expanded upon the goals first articulated in Prague, 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 national security

¹³⁰ "Fact Sheet on US Nuclear Force Structure under the New START Treaty," US Department of Defense, April 8, 2014. <http://www.defense.gov/documents/Fact-Sheet-on-US-Nuclear-Force-Structure-under-the-New-START-Treaty.pdf>

¹³¹ Ibid.

¹³² Ibid.

¹³³ "New START Treaty Aggregate Numbers of Strategic Offensive Arms," Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated January 1, 2015.

¹³⁴ "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.

¹³⁵ US Nuclear Posture Review Report, US Department of Defense, April 2010.

¹³⁶ *The National Military Strategy of the United States of America*, US Department of Defense, February 8, 2011, pp. 9, 21.

¹³⁷ *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, US Department of Defense, January 3, 2012, p. 11.

strategy.¹³⁸ This new guidance represents only the third revision since the end of the Cold War and the first revision since 2002.¹³⁹ It 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.”¹⁴⁰ On the basis of results of an interagency review, President Obama also announced 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.”¹⁴¹

In accordance with the NPR, the guidance established by Presidential Policy Directive-24 (PPD-24) on nuclear weapons employment stops short of adopting a “sole purpose” doctrine,¹⁴² but indicates 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.”¹⁴³ To reduce the role of nuclear weapons in US national security strategy, the guidance directed the DOD to develop plans for “non-nuclear strike options.” Additionally, the new guidance directed the Pentagon to review options to reduce the role of launch-under-attack posture in contingency planning, while retaining the ability to launch under attack if directed.¹⁴⁴

The United States plans to replace each leg of the nuclear triad, including the development and acquisition of a new SSBN, ICBM, strategic bomber, cruise missile, nuclear-capability for combat aircraft, a program to extend the life and eventually replace the warheads in the stockpile, and modernization of the nuclear complex’s infrastructure.¹⁴⁵ 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.¹⁴⁶ According to the January 2015 estimate from the US Congressional Budget Office (CBO), the cost of implementing the US plans for maintenance and modernization of nuclear forces will be \$348 billion between 2015 and 2024.¹⁴⁷ However, because most of the major expenditures are scheduled for after 2020 and procurement is expected to peak between 2024 and 2029, CNS experts have estimated that, without a significant revision of current plans, the United States would have to

¹³⁸ “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.

¹³⁹ “Report on Nuclear Employment Strategy of the United States,” US Department of Defense, June 12, 2013, p. 2, www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy_Section491.pdf.

¹⁴⁰ Ibid., p. 3

¹⁴¹ “Factsheet: Nuclear Weapons Employment Strategy of the United States.”

¹⁴² Meaning that nuclear weapons would be used only in response to a nuclear attack.

¹⁴³ “Report on Nuclear Employment Strategy of the United States,” p. 7, www.defense.gov/pubs/ReporttoCongressonUSNuclearEmploymentStrategy_Section491.pdf.

¹⁴⁴ Ibid. and “Factsheet: Nuclear Weapons Employment Strategy of the United States.”

¹⁴⁵ Tom Z. Collina, “The Unaffordable Arsenal: Reducing the Costs of the Bloated US Nuclear Stockpile,” Arms Control Association, October 2014 <http://www.armscontrol.org/files/The-Unaffordable-Arsenal-2014.pdf>; Kristensen and Norris, “Nuclear Notebook: US Nuclear Forces, 2014”

¹⁴⁶ 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.

¹⁴⁷ “Projected Costs of US Nuclear Forces, 2015 to 2024,” Congressional Budget Office, Congress of the United States, January 2015, www.cbo.gov/publication/49870. The estimate includes project cost growth.

spend almost \$1 trillion to maintain and modernize its nuclear arsenal and enterprise over the next thirty years.¹⁴⁸

Of the \$348 billion over the next decade, CBO projects that \$160 billion would be spent on strategic nuclear delivery systems and weapons, \$8 billion on tactical nuclear delivery systems and weapons, \$79 billion on nuclear weapons laboratories and supporting activities, and \$52 billion on upgrading command and control systems.¹⁴⁹ The remaining \$49 billion accounts for project cost growth, based on past precedent.¹⁵⁰ In December 2013, the CBO estimated the total cost to be \$355 billion (between 2014 and 2023), but budget-driven delays for a number of programs in the above-mentioned categories have modestly reduced projected costs over the next decade.¹⁵¹

The United States is modernizing and extending the life of its Minuteman III land-based ICBM, which reportedly entails updating “virtually every component” of those missiles.¹⁵² That effort is believed to be close to completion and the Minuteman III will be in service until 2030.¹⁵³ In late 2013, US Air Force (USAF) initiated the Ground-Based Strategic Deterrent (GBSD) Analysis of Alternatives in order to devise a plan to replace the Minuteman III.¹⁵⁴ According to a January 2015 request for information on the US government’s contracting website, the Air Force intends to replace the Minuteman III flight system, upgrade the existing silos, and modernize the command and control system.¹⁵⁵

USAF has also announced its intent to commission 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.¹⁵⁶ The new missile would presumably carry a life-extended version of one or two of the existing warheads.¹⁵⁷ 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 2018.¹⁵⁸ USAF is modernizing the B-2 strategic bombers, which are projected to last until 2058, and conducting research and development of a new nuclear-capable strategic bomber. The United States reportedly

¹⁴⁸ 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/.

¹⁴⁹ Ibid. p. 3

¹⁵⁰ Ibid.

¹⁵¹ “Projected Costs of US Nuclear Forces, 2014 to 2023,” Congressional Budget Office, Congress of the United States, December 2013, www.cbo.gov/publication/44968. The estimate includes project cost growth.

¹⁵² Andrew Lichterman, “United States,” in *Assuring Destruction Forever: Nuclear Weapon Modernization around the World*, Ray Acheson, ed., Reaching Critical Will, March 2012, p. 93.

¹⁵³ Jon B. Wolfsthal, “The Myth of American Nuclear Obsolescence,” James Martin Center for Nonproliferation Studies, Monterey, CA, February 24, 2014, <http://www.nonproliferation.org/the-myth-of-american-nuclear-obsolescence/>

¹⁵⁴ Andrew Lichterman, “United States,” in *Still Assuring Destruction Forever: Nuclear Weapon Modernization around the World*, Ray Acheson, ed., Reaching Critical Will, March 2013, p. 21

¹⁵⁵ “Request for Information (RFI) #1, Ground Based Strategic Deterrent,” January 23, 2015, www.fbo.gov.

¹⁵⁶ 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/.

¹⁵⁷ Kristensen and Norris suggest this could be W80-I or W84. Discussed in Hans M. Kristensen and Robert S. Norris, “US Nuclear Forces, 2013,” *Nuclear Notebook, Bulletin of the Atomic Scientists*, Vol. 62, No. 2 (March/April 2013), pp.77-86.

¹⁵⁸ Jon Hemmerdinger, “USAF Delays LRSO Again, This Time by Three Years,” *Fightglobal.com*, March 13, 2014, www.fightglobal.com/news/articles/usaf-delays-lrso-again-this-time-by-three-years-396997/.

plans to deploy the new bomber in mid-2020s.¹⁵⁹

In December 2012, US government awarded a \$2 billion, five-year contract for design work on the Ohio-class replacement SSBN.¹⁶⁰ In October 2013, it was reported that the US Navy was “in the early stages” of design work and prototyping for the new SSBN.¹⁶¹ The US Navy plans to procure 12 Ohio-replacement SSBNs, with the first to enter service in 2021.¹⁶² In 2015 fiscal year, nearly \$1.3 billion was appropriated for the SSBN(X) program.¹⁶³

CBO projects that the costs of maintaining and upgrading the nuclear weapons complex over the next decade will total \$79 billion.¹⁶⁴ 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.¹⁶⁵ The start of 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.¹⁶⁶

Other infrastructure projects include: continued design and preparation for the “Uranium Processing Facility (at Y-12), an increase in the production of nuclear materials, process certification, and safety support as laboratories prepare for new life extension efforts; and an emphasis on catching up on deferred maintenance at some facilities.”¹⁶⁷ Significant budgetary pressures and technical hurdles caused NNSA to announce, in March 2014, that it would delay key elements of the “3+2” program to extend the life of five nuclear warhead types and retire another two types.¹⁶⁸ Three of the five types, for ICBMs and SLBMs, would be interoperable. NNSA’s rationale for this approach is that it would allow the United States to reduce the number of non-deployed warheads

¹⁵⁹ Tom Z. Collina, “US Nuclear Modernization Programs,” Arms Control Association, January 2014, 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-USA-Expects-Long-Range-Bomber-RFP-Fall.

¹⁶⁰ Christopher P. Cavalas, “Submarine Design Effort Gets a \$2bn Boost,” *Defense News*, December 21, 2012, www.defensenews.com/article/20121221/DEFREG02/312210007/Submarine-Design-Effort-Gets-2B-Boost?odyssey=mod.

¹⁶¹ 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>.

¹⁶² “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

¹⁶³ Kingston Reif, “President’s ’16 Budget Calls for Unsustainable, Unnecessary Nuclear Weapon Spending,” Arms Control Association, February 3, 2015, <http://www.armscontrol.org/blog/ArmsControlNow/2015-02-03/President-FY-2016-Budget-Calls-for-Unsustainable-Unnecessary-Nuclear-Weapons-Spending>

¹⁶⁴ *Ibid.* p. 7

¹⁶⁵ 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-files/reports/nuclear-security-safety/energy-department-plans-to-waste-billions/nss-nwc-20120118-us-nuclear-weapons-complex.html.

¹⁶⁶ 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/.

¹⁶⁷ “Projected Costs of US Nuclear Forces, 2015 to 2024,” Congressional Budget Office, Congress of the United States, January 2015, www.cbo.gov/publication/49870, p. 7. The estimate includes project cost growth.

¹⁶⁸ Tom Z. Collina, “NNSA’s 3+2 Plan Does Not Add Up,” Arms Control Association, May 6, 2014, <http://www.armscontrol.org/issuebriefs/NNSAs-3%202-Nuclear-Warhead-Plan-Does-Not-Add-Up>.

while maintaining a hedge against the catastrophic failure of a single warhead type.¹⁶⁹ The remaining two designs are for bombers. One of these bomb designs, the B61-12, is a consolidating of several existing B61 versions into one warhead type that will have improved military capabilities and safety and security features.¹⁷⁰ It will reportedly cost more than twice its weight in gold.¹⁷¹

So far, the nuclear arsenal seems to have been sheltered from severe spending cuts, but budgetary constraints may become increasingly salient in decision making on the nuclear arsenal in the very near future. In August 2014, faced with increasing pressure to reduce military spending, the White House National Security Council (NSC) initiated an interagency review of plans to modernize the US nuclear arsenal and enterprise.¹⁷² Current status of the review is unclear, as officials have declined to comment on it.

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."¹⁷³

France, having implemented some progressive measures in the past, has hardened its position on nuclear disarmament, 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

¹⁶⁹ Ibid.

¹⁷⁰ See Hans M. Kristensen, "B61-12: The New Guided Standoff Nuclear Bomb," Presentation to Side Event, 2014 NPT Preparatory Committee Meeting, New York, May 2, 2014, http://fas.org/programs/ssp/nukes/publications1/Brief2014_PREPCOM2.pdf.

¹⁷¹ Benjamin Loehrke, "Meet the Budget Busting B61 Nuclear Bomb," Ploughshares Fund, July 9, 2013 <http://www.ploughshares.org/blog/budget-busting-b61>.

¹⁷² Tom Z. Collina, "White House Reviewing Nuclear Budget," Arms Control Association, 28 August 2014, http://www.armscontrol.org/act/2014_09/News/White-House-Reviewing-Nuclear-Budget.

¹⁷³ "China's National Defense in 2010," Section X: Arms Control and Disarmament, March 31, 2011, http://www.china.org.cn/government/whitepaper/2011-03/31/content_22263885.htm.

disarmament”—without mentioning nuclear disarmament or affording it any priority.¹⁷⁴ In a major speech devoted to nuclear deterrence, in February 2015, President Hollande underscored the importance of nuclear weapons for France and announced that due to volatile international environment, “[t]here can be no question of lowering our guard.”¹⁷⁵ He further stated that France shares “the long-term goal of totally eliminating nuclear weapons,” but only “when the strategic context allows.” In A November 2014 statement, French Minister of Defense also argued that seeking to delegitimize nuclear deterrence was “fighting the wrong battle,” and that it is necessary to “avoid a situation where general calls for a ‘world without nuclear weapons’ creates a world in which only dictators wield them.”¹⁷⁶ Since the 2010 NPT RevCon, French officials have been underscoring that the Action Plan is the “road map,” suggesting that initiatives going beyond the 22 action items and/or undermining the step-by-step approach are a distraction.¹⁷⁷

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.”¹⁷⁸ 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.¹⁷⁹ In recent statements, Russia has also been emphasizing the “general and complete disarmament” part of Article VI and suggesting this component had been neglected, while nuclear disarmament measures progressed.¹⁸⁰ 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.¹⁸¹

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.¹⁸² At the same time, the UK government remains committed to maintaining its nuclear

¹⁷⁴ 2013 *Livre Blanc*, p. 75.

¹⁷⁵ “France Will Not Lower Its Nuclear Guard, Vows President,” Speech by M. Francois Hollande, President of France (English translation), Istres, February 19, 2015, www.ambafrance-uk.org/France-will-not-lower-its-nuclear.

¹⁷⁶ “Discours de clôture du colloque pour les 50 ans de la dissuasion,” French Ministry of Defense, November 21, 2014, www.defense.gouv.fr/ministre/prises-de-parole-du-ministre/prises-de-parole-de-m.-jean-yves-le-drian/discours-de-cloture-du-colloque-pour-les-50-ans-de-la-dissuasion. CNS is grateful to Dr. Bruno Tertrais for the translation of this excerpt.

¹⁷⁷ 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

¹⁷⁸ 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/>.

¹⁷⁹ 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.

¹⁸⁰ See, for example, Statement by the Representative of the Russian Federation in the First Committee of the 69th UNGA session (Nuclear Cluster), New York, October 21, 2014, http://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/statements/21Oct_Russia.pdf.

¹⁸¹ “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.

¹⁸² SDSR 2010, paragraph 3.5.

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.”¹⁸³ 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.”¹⁸⁴

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.”¹⁸⁵ The 2010 NPR reiterated this vision, while also reaffirming that the United States would maintain a 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.¹⁸⁶ 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.”¹⁸⁷ 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.¹⁸⁸

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.¹⁸⁹ 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

¹⁸³ 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

¹⁸⁴ David Cameron, “We Need Nuclear Deterrent More than Ever,” *The Telegraph*, April 3, 2013, www.telegraph.co.uk.

¹⁸⁵ “Remarks by President Barack Obama in Prague as Delivered.”

¹⁸⁶ See, for example, the statement by Rose Gottemoeller, Acting Under Secretary of State, at the Conference on Disarmament, January 24, 2012.

¹⁸⁷ 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.

¹⁸⁸ “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.

¹⁸⁹ Voting record is available at www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com13/votes-ga/32.pdf.

threat of use” of nuclear weapons.¹⁹⁰ 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.”¹⁹¹ 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.¹⁹² As discussed earlier, the NWS also did not attend the humanitarian impact conferences in Oslo in March 2013 and in Nayarit in February 2014. However, the US and UK attendance of the third humanitarian conference in Vienna in December 2014 was widely welcomed by the NNWS.

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.¹⁹³ 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.”¹⁹⁴

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.

¹⁹⁰ “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.

¹⁹¹ Explanation of vote by H.E. Jean-Hugh 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.

¹⁹² 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.

¹⁹³ “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/>.

¹⁹⁴ “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.

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 the number of weapons in its nuclear arsenal or any warhead dismantlement numbers.¹⁹⁵ There are also no current estimates regarding warhead dismantlement in China, and, according to the Federation of American Scientists, the country's arsenal is growing with the production of new warheads.¹⁹⁶

China's 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.¹⁹⁷ 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 nuclear weapons material production facilities. France has not declared any fissile material in excess of military requirements and is not known to be implementing any material disposition programs.

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

Russia

Limited progress

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

¹⁹⁵ 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; www.qhnews.com/2009zt/yzc/; and www.iaea.org/OurWork/ST/NE/NEFW/envirnet/meetings/TM_Guide_Stakeholder_Involvement/China.pdf.

¹⁹⁶ "Status of World Nuclear Forces," Federation of American Scientists.

¹⁹⁷ "Global Fissile Material Report 2010," International Panel on Fissile Materials.

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 2014, there were a total of 3,500 retired warheads in Russia awaiting dismantlement.¹⁹⁸ Kristensen and Norris estimated a total of 7,300 warheads awaiting dismantlement in 2010, suggesting an estimated dismantlement rate of about 1,000 warheads a year. Other independent estimates have 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.”¹⁹⁹

“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 34 metric tons of surplus plutonium under the Plutonium Disposition and Management Agreement (PDMA) with the United States is scheduled to start in 2018. Plutonium will be used to produce MOX fuel and burned in reactors. BN-800, the new Russian reactor that uses MOX fuel, is expected to begin operations in the second half of 2015.²⁰⁰

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.

United Kingdom

Limited progress

The United Kingdom is implementing a Stockpile Reduction Programme and disassembling Trident warheads at the AWE Burghfield facility.²⁰¹ 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.²⁰²

A gaseous diffusion plant at Capenhurst that previously produced HEU for weapons was shut down in 1982 and subsequently decommissioned and demolished.²⁰³ All of the facilities that produced plutonium for the UK nuclear weapons program have been shut down. See Action 18.

¹⁹⁸ Kristensen and Norris, “Russian Nuclear Forces, 2014,” p. 75. Estimate as of March 2014.

¹⁹⁹ “Global Fissile Material Report 2011,” International Panel on Fissile Materials, p. 5.

²⁰⁰ “The Startup of BN-800 Might Take Place in the Second Half of 2015 – Romanov” (in Russian), ITAR-TASS, March 1, 2015, atominfo.ru/newsk/r0349.htm.

²⁰¹ 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>.

²⁰² “Plutonium Strategy: Current Position Paper,” Nuclear Decommissioning Authority, February 2011, www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf.

²⁰³ The plant stopped producing HEU for weapons in 1962. “Global Fissile Material Report 2011,” p. 10; also, http://fissilematerials.org/countries/united_kingdom.html. The demolition of the plant was reported in February 2008, www.wise-uranium.org/edeur.html.

United States

Progress

While limiting the number of deployed strategic warheads and delivery systems, New START, like all of the bilateral arms control treaties preceding it, does not require the dismantlement of warheads. Unilateral US warhead dismantlement, however, is ongoing.

In April 2014, the United States released an updated fact sheet which included the number of warheads dismantled each year between 1994 and 2013 (9,952 in total).²⁰⁴ From October 2009 through September 2013, the United States dismantled 1,204 warheads, at an average rate of only 300 warheads a year. The National Nuclear Security Administration (NNSA) has not yet released the number of warheads dismantled since September 2013. The May 2011 NNSA Strategic Plan included the commitment to complete the dismantlement of all warheads retired prior to 2009 by 2022.²⁰⁵ The dismantlement of warheads retired since 2009 will presumably commence after 2022 and is planned to be completed by 2038.²⁰⁶

In August 2010, then-US Secretary of Energy Steven Chu announced the complete dismantlement of all W62 warheads, retired from service in March 2010.²⁰⁷ 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.²⁰⁸ The NNSA also noted that dismantlement was completed “years ahead of schedule” due to the use of new, more efficient and safe technology.²⁰⁹

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 2012.²¹⁰ Still, experts note that the current rate of dismantlement is significantly lower than the level achieved in the 1990s.²¹¹ No further updates on warhead dismantlement were released during the reporting period. See Action 18 for dismantlement of facilities.

²⁰⁴ “Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile,” US Department of State, May 29, 2014, <http://www.state.gov/documents/organization/225555.pdf>.

²⁰⁵ *The National Nuclear Security Administration Strategic Plan*, National Nuclear Security Administration, May 2011, p 8.

²⁰⁶ “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.

²⁰⁷ “W62 Dismantlement Factsheet,” National Nuclear Security Administration, August 12, 2010, <http://nnsa.energy.gov/mediaroom/factsheets/w62dismantlement>.

²⁰⁸ “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>.

²⁰⁹ “NNSA, Y-12 Complete Dismantlement of W70 Components,” National Nuclear Security Administration, 21 October 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/w70dismantle102111>.

²¹⁰ “NNSA Exceeds 2012 Goal for Nuclear Weapons Dismantlement,” NNSA press release, December 3, 2012.

²¹¹ “Global Fissile Material Report 2011,” p. 5.

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 has cooperated with Norway, through the UK-Norway Initiative (UKNI), in developing approaches to warhead dismantlement verification that would allow the participation of NNWS. In 2012, the UK hosted a P5 expert-level meeting to discuss lessons learned from the UKNI.²¹²

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 held public briefings on the sidelines of the 2013 session of the UN First Committee and the 2014 NPT PrepCom.²¹³

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.²¹⁴ The two countries concluded a warhead dismantlement verification exercise in early 2012.²¹⁵ (See Action 19.)

²¹² UK National Report Pursuant to Actions 5, 20, and 21, p. 3.

²¹³ See “Fact Sheet: Nuclear Verification,” Office of Nonproliferation and International Security, NNSA, September 2011.

²¹⁴ Ibid.

²¹⁵ 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.

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 and military fissile material holdings. China's report submitted to the 2014 PrepCom pursuant to Actions 5, 20, and 21 did not provide any new information in this regard.

France

Limited progress

France's report submitted to the 2014 PrepCom pursuant to Actions 5, 20, and 21 did not provide any new information regarding its arsenal and fissile material holdings. However, some new information was released subsequently, in the run up to the 2015 Review Conference.

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. None of these warheads are considered to be in reserve. President Hollande reconfirmed the 300-warhead ceiling in his February 2015 speech.

Speaking in Istres in February 2015, President Francois Hollande for the first time officially disclosed further details on the composition of the arsenal, announcing that France possesses three sets of 16 SLBMs and 54 ASMP/A cruise missiles.

No new reductions have been announced since 2008, and France does not disclose information on warhead dismantlement and military fissile material stocks.

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. Its report submitted to the 2014 PrepCom pursuant to Action 5, 20, and 21 did not contain any new information in this regard.

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

In the report submitted to the 2014 PrepCom pursuant to Actions 5, 20, and 21, the United Kingdom did not disclose any new information regarding its arsenal and military fissile material holdings.

Previously, 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 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.”²¹⁶

United States

Progress

Of the five NWS, the United States submitted to the 2014 PrepCom the most detailed report pursuant to Actions 5, 20, and 21. In it, the United States provided an update on the number of warheads in its stockpile, as of September 2013, and the number of warheads in had dismantled between 2009 and 2013. The report reiterated the information on plutonium holdings from the June 2012 Department of Energy report that described changes in the US plutonium inventory for 1994-2009.²¹⁷ The United States also cited the amount of HEU it had previously declared in excess and reported that to date it had downblended more than 140 metric tons of that material (see Action 16).²¹⁸

Additionally, 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.²¹⁹

In April 2014, the Department of Defense (DOD) announced future changes in the composition of the US nuclear force structure in order to comply with New START limits by 2018.²²⁰ The DOD will transition today’s triad to a force of 1,550 deployed warheads on 400 ICBMs, 240 SLBMs on 14 SSBNs, and 60 heavy bombers.²²¹ To meet the above-mentioned treaty requirements, DOD plans to remove ICBMs from 50 silos, convert 4 SSBN launch tubes on each of the 14 SSBNs, and convert 30 B-52 heavy bombers to a conventional-only role.²²²

²¹⁶ Written Ministerial Statements, Defence, Nuclear Deterrent, June 29, 2011: Column 51WS, www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110629/wmstext/110629m0001.htm.

²¹⁷ “The United States Plutonium Balance, 1944-2009,” National Nuclear Security Administration, US Department of Energy, June 2012, nnsa.energy.gov/sites/default/files/nnsa/06-12-inlinefiles/PU%20Report%20Revised%2006-26-2012%20%28UNC%29.pdf.

²¹⁸ Report Submitted by the United States of America Pursuant to Actions 5, 20 and 21 of the Final Document of the 2010 NPT Review Conference, NPT/CONF.2015/PC.III/16, May 1, 2014.

²¹⁹ 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, 2015, <http://www.state.gov/documents/organization/235818.pdf>.

²²⁰ “Fact Sheet on US Nuclear Force Structure under the New START Treaty,” US Department of Defense, April 8, 2014, www.defense.gov/documents/Fact-Sheet-on-US-Nuclear-Force-Structure-under-the-New-START-Treaty.pdf.

²²¹ Ibid.

²²² Ibid.

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

In 2010, the United Kingdom announced the decision to reduce its overall arsenal to 180 warheads, with no more than 120 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 suggests that the UK transfers about 3 warheads a year to the Atomic Weapons Establishment “for disassembly and removal from service.”²²³

United States: Yes

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

In April 2014, the United States released an official update on its nuclear arsenal which provided stockpile numbers for every year between 1962 and 2013.²²⁴ As of September 2013, the US stockpile consisted of 4,804 warheads, both deployed and non-deployed.²²⁵

Indicator 3.2. Warheads are dismantled during the reporting period

China: No information

France: No information

Russia: No information

²²³ “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>.

²²⁴ Ibid.

²²⁵ “Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile,” US Department of State, April 29, 2014. The figure excludes thousands of retired warheads awaiting dismantlement.

Russia does not release any information on warhead dismantlement. Please see Indicator 2.1. for estimated dismantlement rates.

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.²²⁶

United States: Yes

As noted under Indicator 2.1, the United States continues the dismantlement of warheads retired from its arsenal. The factsheet released by the US Department of State in April 2014 indicated that the United States had dismantled a total 9,952 warheads between 1994 and 2013. Between September 2009 and September 2013, the United States dismantled 1,204 warheads.²²⁷ Experts note that the current rate of dismantlement remains lower than the level achieved in the 1990s.²²⁸

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).

²²⁶ 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>.

²²⁷ “Fact Sheet: Transparency in the U.S. Nuclear Weapons Stockpile,” US Department of State, May 29, 2014. <http://www.state.gov/documents/organization/225555.pdf>.

²²⁸ “Global Fissile Material Report 2011,” p. 5.

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, 2011.²²⁹

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 2015, Russia and the United States had conducted nine 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, discusses practical aspects of treaty implementation and has the authority to make limited technical changes in treaty implementation without altering substantive provisions.²³⁰ The BCC met twice during the review period: on October 16-29, 2014 (eighth session) and on February 10-20, 2015 (ninth session).²³¹ The results of these two sessions have not been made public. At its previous meetings, the BCC agreed on such matters as the exchange of telemetry information from ballistic missile launches.

Russia and the United States 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 fourth year (February 2014-February 2015), the United States and Russia each conducted 18 inspections.²³²

Information on the aggregate numbers of strategic weapons released by the two sides indicates that, between March 2014 and March 2015, the United States increased the number of deployed missiles and bombers by 17 (from 778 to 795). The number of deployed warheads associated with strategic delivery systems, according to New START counting rules, increased by 12 (from 1585 to 1597). During the same period, Russia's deployed missiles and bombers increased by 16 (from 499 to 515), and the number of deployed warheads, according to the counting rules, increased by 70 (from 1512 to 1582). Russia's total numbers of deployed strategic missiles and bombers remain below New

²²⁹ Mark Memmott, "Senate Ratifies New START," NPR, December 22, 2010, 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/>.

²³⁰ See "Bilateral Consultative Commission (BCC)," Bureau of Arms Control, Verification and Compliance, US Department of State, www.state.gov/t/avc/rls/145830.htm.

²³¹ Email communication with the United States State Department officials, April 2-3, 2015.

²³² "New START Treaty Inspection Activities," Bureau of Arms Control, Verification and Compliance, US Department of State, as of February 6, 2015, www.state.gov/t/avc/newstart/c52405.htm.

START limits, however its deployed warheads are now not only above New START limits but also greater than the original amount when the treaty entered into force. The increase in the total number of deployed warheads and delivery systems during the reporting period, as pointed out by Hans Kristensen, is due to “the deployment of new missiles and fluctuations caused by existing launchers moving in and out of overhaul” and does not necessarily indicate that Russia is increasing its strategic nuclear arsenal.²³³ At the same time, Russia has room to “build up” to the New START limits on missiles and bombers, and it has been deploying more MIRVed missiles, replacing the older single-warhead systems. In regards to U.S. increases, Kristensen also points out that it “is not an actual increase of the nuclear arsenal but reflects fluctuations caused by the number of launchers in overhaul at any given time.”²³⁴

Aggregate numbers of strategic offensive arms, on the basis of data exchanges:²³⁵

		As of 5 Feb 2011		As of 1 March 2012		As of 1 March 2013		As of 1 March 2014		As of 1 March 2015	
Category of Data	Treaty Limits	US	Russia	US	Russia	US	Russia	US	Russia	US	Russia
Deployed Missiles and Bombers	700	882	521	812	494	792	492	778	499	795	515
Deployed Warheads	1,550	1,800	1,537	1,737	1,492	1,654	1,480	1,585	1,512	1,597	1,582
Deployed and non- deployed launchers	800	1,124	865	1,040	881	1,028	900	1,028	906	898	890

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.”²³⁶ 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

²³³ Hans M. Kristensen, “New START: Russia and the United States Increase Deployed Nuclear Arsenals,” FAS Strategic Security Blog, October 2, 2014, <http://fas.org/blogs/security/2014/10/newstart2014/>.

²³⁴ Ibid.

²³⁵ “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, 2015; April 1, 2014; April 3, 2013; April 6, 2012, and June 1, 2011.

²³⁶ 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.

could further reduce the number of its deployed strategic weapons and again indicated intent to “seek negotiated cuts with Russia” to that end.²³⁷

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.²³⁸ 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.”²³⁹ Russia’s concerns 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.²⁴⁰ 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.²⁴¹

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.²⁴² In an October 2014 speech, President Putin also expressed concern about the development of long-range precision-guided conventional weapons and their impact on strategic stability.²⁴³ Speaking at the 2014 session of the UN First Committee, Mikhail Ulyanov further argued that, “The negative impact of the concept of Prompt Global Strike on the prospects of nuclear disarmament still remains clearly underestimated by the international community.”²⁴⁴ “The implementation of the ‘prompt strike’ concept” was listed in Russia’s 2014 military doctrine as one of major external threats.²⁴⁵

²³⁷ Remarks by President Obama at the Brandenburg Gate—Berlin.

²³⁸ See, for examples, 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. 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/military_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>

²³⁹ “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

²⁴⁰ 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

²⁴¹ 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; Tom Z. Collina, “The European Phased Adaptive Approach at a Glance,” Arms Control Association, February 2013, www.armscontrol.org/factsheets/Phasedadaptiveapproach.

²⁴² “MFA: Most Unfavorable Time for Russia Now to Reduce Strategic Nuclear Weapons.”

²⁴³ Valdai Discussion Club Session, Full transcript of President Vladimir Putin’s remarks (in Russian), October 24, 2014, news.kremlin.ru/transcripts/46860.

²⁴⁴ Statement by Mr. Mikhail Ulyanov, Representative of the Russian Federation, at the First Committee of the 69th Session of the UN General Assembly, New York, October 8, 2014, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/statements/8Oct_RussiaEN.pdf

²⁴⁵ “Russia’s new military doctrine lists NATO, US as major foreign threats,” *RT*, December 26, 2014, <http://rt.com/news/217823-putin-russian-military-doctrine/>.

Russia's alleged violations of the Intermediate Nuclear Forces (INF) Treaty also hinder the prospects for further reductions in the foreseeable future.²⁴⁶ The two sides continue to address this issue in their bilateral consultations, but it is unclear what progress has been made in resolving the dispute.²⁴⁷ (See Action 1)

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 nuclear-weapon States are called upon to report the above undertakings to the Preparatory Committee at 2014.

The five NWS met most recently in London in February 2015 to continue their consultations. Previous P5 Conferences took place in Beijing in April 2014, Geneva in April 2013 (hosted by Russia), 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. In addition to the annual conferences, the NWS also hold consultations at the expert level in the inter-sessional period.²⁴⁸

²⁴⁶ Nikolai Sokov and Miles A. Pomper, "Is Russia Violating the INF Treaty?: A Technical and Political Analysis," The National Interest Commentary, February 11, 2014, <http://nationalinterest.org/commentary/russia-violating-the-inf-treaty-9859>.

²⁴⁷ Daniel Horner and Daryl Kymbal, "Arms Control in the Near Term: An Interview with Undersecretary of State Rose Gottemoeller," *Arms Control Today*, November 2014, www.armscontrol.org/ACT/2014_11/Features/Interviews/Arms-Control-in-the-Near-Term-An-Interview-With-Undersecretary-Of-State-Rose-Gottemoeller.

²⁴⁸ "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.

According to the joint statement released after the consultations in London in 2015, the five NWS “discussed issues related to international security and strategic stability and their nuclear doctrines.”²⁴⁹ As before, the statement did not go into detail regarding the discussion of doctrines and strategic stability, highlighting only the implementation of New START and its verification. The NWS also reviewed the implementation of the 2010 Action Plan, which they argue was “adopted by consensus as a roadmap for long-term action.” This is the first time that a statement after a P5 conference specifically refers to the Action Plan as a long-term roadmap, but the language is reflective of the view the five states, particularly France and Russia, had taken earlier. The reference to general and complete disarmament was omitted this time, and the statement reaffirmed the NWS commitment to achieving a world without nuclear weapons. The NWS also reaffirmed their position that a step-by-step approach to nuclear disarmament “remains the only realistic and practical route” towards this goal.²⁵⁰

As in previous years, the discussions covered issues across the three pillars of the NPT, including strengthening International Atomic Energy Agency’s (IAEA) safeguards and universalizing the Additional Protocol. The NWS again highlighted their discussion of Article X and potential responses to a withdrawal from the NPT, and expressed hope that the 2015 Review Conference would reach consensus on recommendations regarding potential abuse of Article X.

The disarmament part of consultations appears to have focused on transparency, confidence building, and verification, the core areas of the P5 consultations and cooperation to date. The NWS announced that they had agreed on the first edition of the glossary of nuclear terms and were planning to present it at the 2015 NPT Review Conference (see Indicator 5g.1.). They also reviewed cooperation in support of the CTBT verification regime and reiterated their support for commencement of the negotiations on a fissile material cut-off treaty at the Conference on Disarmament.

Action 5 required the NWS to report on the results of their engagement to the 2014 NPT PrepCom. The NWS decided to combine this requirement with those contained in other actions items and submitted to the third PrepCom national reports designated as pursuant to Actions 5, 20, and 21. The standard format that the NWS adopted for this reporting did not correspond to the steps identified under Action 5, and for the most part, the reports focused on national policies and activities rather than the results of P5 engagement (which fell under the Transparency and Confidence Building sub-section). Furthermore, the broadly defined sections/headings of the standard form allowed some of the NWS to provide much less detail in their reports than others (see Indicator 5.g1.).

(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

²⁴⁹ Joint Statement from the Nuclear-Weapon States at the London P5 Conference, Office of the Spokesperson, US Department of State, February 6, 2015, www.state.gov/r/pa/prs/ps/2015/02/237273.htm.

²⁵⁰ Ibid.

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 between Russia and the United States over the next steps in bilateral arms control, and views also differ on when the NWS with smaller arsenals should join in the negotiations to make the process of reductions multilateral.

(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.²⁵¹ 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.²⁵²

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.”²⁵³ In his Berlin speech in June 2013, President Obama also pledged to work with NATO allies “to seek bold reductions in US and Russian tactical weapons in Europe.”²⁵⁴ 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

²⁵¹ For a summary, see Amy F. Woolf, “Nonstrategic Nuclear Weapons, CRS Report RL32572, February 2, 2011, www.fas.org/sgp/crs/nuke/RL32572.pdf.

²⁵² 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 and Kristensen and Norris, “Russian Nuclear Forces, 2014.”

²⁵³ Nuclear Posture Review Report, U.S. Department of Defense, April 2010.

²⁵⁴ “Remarks by President Obama at the Brandenburg Gate – Berlin.”

stationed in Europe, compared to the 1999 Strategic Concept.²⁵⁵ Unlike the 1999 version, the 2010 Concept also explicitly mentions the prospect of further reductions of these weapons in the future.²⁵⁶ 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 weapons away from the territory of NATO members.”²⁵⁷ 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.²⁵⁸ 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. Russia’s annexation of Crimea, worsening relations with the West, and aggressive moves such as increased strategic bomber patrols near NATO airspace have heightened concerns among NATO members, particularly in Eastern and Central Europe.²⁵⁹ This seems to be hardening at least some allied states’ stance on the US non-strategic weapons in Europe and the role of nuclear weapons in NATO security in general.

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.²⁶⁰ Internal differences on tactical nuclear weapons among NATO states have not been resolved (see Indicator 5g.2).²⁶¹

(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.”²⁶² A new white paper released in 2013 raised concerns among some observers, as it did not

²⁵⁵ “Active Engagement, Modern Defence,” Strategic Concept, North Atlantic Treaty Organization, November 19, 2010, 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>.

²⁵⁶ “Active Engagement, Modern Defence,” Paragraph 26.

²⁵⁷ Ibid.

²⁵⁸ 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.

²⁵⁹ European Leadership Networked has been cataloguing recent incidents and encounters between Russian and NATO military forces. Ian Kearns, Lukasz Kulesa, and Thomas Frear, “Russia-West Dangerous Brinkmanship Continues,” ELN, March 12, 2015, www.europeanleadershipnetwork.org/russia-west-dangerous-brinkmanship-continues-2529.html.

²⁶⁰ Deterrence and Defence Posture Review, NATO, May 20, 2012.

²⁶¹ 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.

²⁶² “China’s National Defense in 2010,” White Paper, www.china.org.cn/government/whitepaper/node_7114675.htm.

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.²⁶³ At the 2013 NPT Preparatory Committee meeting, China reaffirmed the commitment to the no-first-use policy.²⁶⁴

France

No change during the reporting period

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

In December 2014, President Putin approved a new military doctrine, which did not alter Russia's nuclear posture established in the 2010 military doctrine. Russia's doctrine, therefore, continues to foresee a role for nuclear weapons in a potential large-scale or regional war. As in 2010, the 2014 doctrine 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."²⁶⁵ 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.²⁶⁶

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."²⁶⁷

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."²⁶⁸ 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.²⁶⁹ The guidance also preserves the structure of the US nuclear

²⁶³ "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.

²⁶⁴ 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>.

²⁶⁵ Russian Federation Presidential edict, "The Military Doctrine of the Russian Federation," February 5, 2010.

²⁶⁶ 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.

²⁶⁷ "Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review," October 2010, p. 37.

²⁶⁸ "Report on Nuclear Employment Strategy of the United States."

²⁶⁹ Ibid. and "Factsheet: Nuclear Weapons Employment Strategy of the United States."

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 capabilities, remains a core element of our overall strategy."²⁷⁰ At the same time, the document emphasizes that NATO has "dramatically reduced [...] 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."²⁷¹

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."²⁷² The May 2012 Deterrence and Defence Posture Review 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."²⁷³ 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 undermined the prospect of reducing the role of nuclear weapons in NATO's security policy and withdrawing US weapons from Europe. The 2014 NATO Summit in Wales reaffirmed that, "As long as nuclear weapons exist, NATO will remain a nuclear alliance," though the summit declaration also noted that "the circumstances in which any use of nuclear weapons might have to be contemplated are extremely remote."²⁷⁴

²⁷⁰ "Active Engagement, Modern Defence," North Atlantic Treaty Organization, November 19, 2010, www.nato.int/cps/en/natolive/official_texts_68580.htm

²⁷¹ Ibid. and "NATO's Nuclear Forces," North Atlantic Treaty Organization, updated 14 October 2011, www.nato.int/cps/en/natolive/topics_50068.htm?

²⁷² "Lisbon Summit Declaration," North Atlantic Treaty Organization, 20 November 2010, www.nato.int/cps/en/natolive/official_texts_68828.htm

²⁷³ Deterrence and Defence Posture Review, NATO Press Release, May 20, 2012, www.nato.int/cps/en/natolive/official_texts_87597.htm?mode=pressrelease

²⁷⁴ Wales Summit Declaration Issued by the Heads of State and Government Participating in the Meeting of the North Atlantic Council in Wales, September 4-5, 2014, www.gov.uk/government/uploads/system/uploads/attachment_data/file/351406/Wales_Summit_Declaration.pdf.

(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 had previously led the effort to convene a “contact group” of NWS, with a possible inclusion of other weapons possessors, on launching the FMCT negotiations.²⁷⁵ Several “P5 plus” consultations took place on the margins of the CD and the UNGA First Committee meetings starting in August 2011.²⁷⁶ Several joint statements of the P5 conferences also referred to their “efforts with other relevant partners” in promoting FMCT negotiations, presumably meaning the “P5 plus” consultations.²⁷⁷ The content of these discussions is not disclosed, but the group evidently was not able to come up with solutions for the current deadlock at the CD. It appears that the “P5 plus” meetings ceased with the establishment of the Group of Governmental Experts on the FMCT (see Action 15).

As part of their consultations, the P5 have established a CTBT verification working group to cooperate on improving and maintaining the International Monitoring System. At their 2015 conference in London, the NWS agreed to continue these technical group meetings and hold a workshop on radionuclide measurements for on-site inspections. The NWS also supported the Integrated Field Exercise 2014 in Jordan (see Action 14) with contributions of equipment and personnel.²⁷⁸ Previously, 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.²⁷⁹ 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

²⁷⁵ A senior State Department official, remarks under Chatham House rules.

²⁷⁶ Conversations with diplomats familiar with the process, fall 2011.

²⁷⁷ See, for example, the Fourth P5 Conference joint statement, www.state.gov/r/pa/prs/ps/2013/04/207768.htm.

²⁷⁸ Oleg Rozhkov, “IFE14: Detecting the Smoking Gun: How Voluntary Contributions Make a Difference,” CTBTO, www.ctbto.org/press-centre/highlights/2014/ife14-detecting-the-smoking-gun-how-voluntary-contributions-make-a-difference/.

²⁷⁹ “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.

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-under-attack posture but directs the Department of Defense to “examine and reduce the role of launch-under-attack in contingency planning.”²⁸⁰

As in previous years, at the UN General Assembly First Committee in October 2014, France, Russia, the United Kingdom, and the United States voted against the biennial resolution “Decreasing Operational Readiness of Nuclear Weapons Systems,” which called for further practical steps towards removing all nuclear weapons from high alert status.²⁸¹ In explaining their vote, France, the United Kingdom, and the United States argued that the operational readiness of their respective forces “is maintained at a level consonant with [their] national security requirements” and current alert levels do not increase the risk of accidental use of nuclear weapons.²⁸²

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.”²⁸³ 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.”²⁸⁴

²⁸⁰ “Fact Sheet: Nuclear Weapons Employment Strategy of the United States.”

²⁸¹ “Decreasing Operational Readiness of Nuclear Weapons Systems,” Draft Resolution tabled by Chile, Malaysia, New Zealand, Nigeria, and Switzerland, A/C.1/69/L.22, October 16, 2014. Voting Results are available online at reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/votes/L22.pdf.

²⁸² Ambassador Robert A. Wood, Explanation of Vote on behalf of France, the United Kingdom, and the United States, UNGA First Committee, October 29, 2014, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/eov/L22_P3.pdf.

²⁸³ “China’s National Defense in 2008,” Defense White Paper, January 2009, http://news.xinhuanet.com/english/2009-01/20/content_10688124.htm

²⁸⁴ Mark Stokes, 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; and http://news.mod.gov.cn/forces/2011-05/29/content_4244145.htm

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.²⁸⁵ 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.²⁸⁶

At the same time, alert levels remain high, particularly in the United States and Russia. According to the Russian Ministry of Defense, 96 percent of Russia's- deployed ICBMs are "ready for immediate use," indicating a very high alert level.²⁸⁷ A 2012 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.²⁸⁸ 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.²⁸⁹ 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."²⁹⁰ However, 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."²⁹¹ 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."²⁹² 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."²⁹³ 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.²⁹⁴ The

²⁸⁵ Please see www.nti.org/media/pdfs/3b_1.pdf?_id=1316627913 (in Chinese); Luke Champlin, "China, Russia Agree on Launch Notification," November 2009, 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>

²⁸⁶ John Hallam, "Nuclear Weapons Operational Readiness/Operating Status," Reaching Critical Will, 2008, www.reachingcriticalwill.org; "Clinton, Yeltsin Reaffirm Importance of Joint Cooperation," Federation of American Scientists, 14 January 1994, www.fas.org; Dr Nikolai Sokov, interview, winter 2012.

²⁸⁷ Pavel Podvig, "Russian Missile Force Readiness Rate," Russian Strategic Nuclear Forces blog, December 1, 2014, http://russianforces.org/blog/2014/12/russian_missile_force_readiness.shtml.

²⁸⁸ Hans M. Kristensen and Matthew McKinzie, *Reducing Alert Rates of Nuclear Weapons*, UNIDIR: New York and Geneva, 2012, UNIDIR/2012/6, pp. 5-6.

²⁸⁹ Kristensen and Norris, "Russian Nuclear Forces, 2011," p. 71.

²⁹⁰ Kristensen and McKinzie, *Reducing Alert Rates of Nuclear Weapons*, p. 7.

²⁹¹ Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. x.

²⁹² Kristensen and McKenzie, *Reducing Alert Rates of Nuclear Weapons*, p. 1.

²⁹³ 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.

²⁹⁴ 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.

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.²⁹⁵ 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.”²⁹⁶ Its *Livre Blanc*, however, does not specify alert levels/posture.

Indicator 5ef.2. 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.²⁹⁷

(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.

As discussed earlier, the P5 cooperated on developing a standard reporting form to provide information on their nuclear arsenals and policies to other NPT parties. They agreed on a common reporting framework in 2014 and submitted their first reports under it to the third NPT PrepCom. The framework was not as detailed as many NNWS desired and did not require the NWS to report specifics such as fissile material stocks and warhead numbers. As a result, the amount of information and detail contained in the five reports varies significantly, and most of that information was already available previously. It is useful, however, to have such material consolidated in one report.

Reflective of the existing trend, the United States submitted the most detailed report, providing an update on the size of its arsenal and warhead dismantlement progress (as of September 2013), and information on its verification research and development, among other activities. While China did not reveal anything new about its arsenal, it notably reported, for the first time, that it had been carrying out research on nuclear arms control verification, including warhead dismantlement and disposition of nuclear components and material.

²⁹⁵ “Trident Alternatives Review.”

²⁹⁶ “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.

²⁹⁷ 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.

The NWS have been briefing each other on their respective verification experiences, including lessons learned from the implementation of New START, the UK-Norway Initiative, and US-UK Technical Cooperation Program (see Action 19). As part of work to advance transparency, the United States has briefed the other NWS on its activities at the Nevada National Security Site and provided a tour of the Nuclear Risk Reduction Center.²⁹⁸ China also organized a P5 visit to the Chinese National Data Centre for the implementation of CTBT and shared information on its nuclear arms control verification research.²⁹⁹

During the meeting in Paris in 2011, the five NWS established a “dedicated working group” on terminology to develop a P5 glossary of key nuclear terms.³⁰⁰ The group, chaired by China, has since been working on a glossary of terms related to nuclear disarmament, arms control, nonproliferation, and peaceful uses.³⁰¹ According to Andrea Berger and Malcolm Chalmers, by 2013, “the group had agreed on a short list of around 200 to 300 terms in English” (narrowed down from over 2,000) and subsequently took up negotiations on common definitions for them.³⁰² The work reportedly proceeded slower than expected, but in February 2015, the NWS announced that they had agreed on the first edition of the glossary and plan to present it at the 2015 NPT Review Conference.

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 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.³⁰³ According to US accounts,

²⁹⁸ “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 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.

²⁹⁹ “Joint Statement on the P5 Beijing Conference: Enhancing Strategic Confidence and Working Together to Implement the Nuclear Non-Proliferation Review Outcomes,” April 15, 2014, www.state.gov/r/pa/prs/ps/2014/04/224867.htm.

³⁰⁰ Please see “First P5 Follow-up Meeting to the NPT Review Conference (Paris, June 30th – July 1st, 2011),” Statement by the Spokesperson of the Ministry of Foreign and European Affairs, France TNP website, 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.

³⁰¹ 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.

³⁰² Andrea Berger and Malcolm Chalmers, “The Art of the Possible: The Future of the P5 Process on Nuclear Weapons,” *Arms Control Today*, October 2014, www.armscontrol.org/ACT/2014_10/Feature/The-Art-of-the-Possible-The-Future-of-the-P5-Process-On-Nuclear-Weapons.

³⁰³ 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.

China has often resisted discussing nuclear weapon stockpiles and postures as part of these exchanges.³⁰⁴ 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 2009.³⁰⁵

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.³⁰⁶ 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.”³⁰⁷

During the fifth round of the dialogue in July 2013, within its 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.”³⁰⁸ They also agreed to establish a hotline between special representatives of the two presidents. The joint statement on the outcomes, however, made no specific reference to such controversial issues as positions on ballistic missile defense and transparency in nuclear arsenals. The sixth round of Strategic and Economic Dialogue took place in July 2014 in Beijing. As part of the Strategic Track, the two countries’ civilian and defense officials continued strategic security dialogue, but the publically available report on its outcomes does not list the topics that were discussed.³⁰⁹

China and the United States also engage in annual bilateral Defense Consultative Talks. The latest—the fifteenth—meeting took place in October 2014 in Beijing. Information on the content of discussions remains scarce, but according to the US Department of Defense, the meeting was held in a “constructive spirit.” The two sides also launched the first round of the US Joint Staff–PLA General Staff Strategy Talks. At the previous meeting, in September 2013, China and the United States “discussed how to enhance strategic trust” and “ways to enhance communications to improve

³⁰⁴ Ibid.

³⁰⁵ US-China Joint Statement, office of the Press Secretary, The White House, November 17, 2009, www.whitehouse.gov/the-press-office/2009/11/17/us-china-joint-statement

³⁰⁶ 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/US_Chinese_Nuclear_Dialogue

³⁰⁷ 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.”

³⁰⁸ “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.

³⁰⁹ “US-China Strategic and Economic Dialogue Outcomes of the Strategic Track,” Media note, Office of the Spokesperson, US Department of State, July 14, 2014, www.state.gov/r/pa/prs/ps/2014/07/229239.htm.

understanding and avoid misperception.” They further agreed to continue discussions and “sustain dialogue in key strategic areas including nuclear, missile defense, space, and cyber.”³¹⁰

China-Russia:

China and Russia view each other mostly favorably, and Director of the Carnegie Moscow Center Dmitri Trenin notes that Russia’s policy of nuclear deterrence vis-à-vis China is implied rather than “articulated openly.”³¹¹ 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.³¹² In 1994, the two countries agreed to a mutual no-first-use of nuclear weapons and no targeting of nuclear weapons at each other.³¹³ In 2009, they agreed to share missile launch notifications with each other.³¹⁴

Military cooperation and high-level visits have continued during the reporting period, and China and Russia continue to implement the missile launch notification agreement. 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.”³¹⁵ 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.³¹⁶ Sino-Russian discussions regarding cooperation on international security issues have reportedly intensified in light of growing tensions between Russia and the West over the former’s intervention in Ukraine.³¹⁷ On May 20-21 2014, Presidents Putin and Xi Jinping met in Shanghai and discussed, among other topics, the need to increase coordination in peaceful use of outer space and the fight against missile proliferation.³¹⁸

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 Xi’s visit to Moscow in March 2013, 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.”³¹⁹

³¹⁰ “Readout of the US-China Defense Consultative Talks,” US Department of Defense, September 10, 2013, www.defense.gov/releases/release.aspx?releaseid=16250.

³¹¹ 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.

³¹² Sherman Garnett, “Challenges of the Sino-Russian Strategic Partnership,” *The Washington Quarterly* (Autumn 2011), www.twq.com/01autumn/garnett.pdf.

³¹³ See www.nti.org/media/pdfs/3b_1.pdf?_id=1316627913 (in Chinese).

³¹⁴ Champlin, “China, Russia Agree on Launch Notification,” and “China and Russia Sign Missile Notification Pact,” Sina, October 14, 2010.

³¹⁵ “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.

³¹⁶ “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>.

³¹⁷ Yu Bin, “China-Russia Relations: Navigating through the Ukraine Storm,” *Comparative Connections*, September 2014, http://csis.org/files/publication/1402qchina_russia.pdf.

³¹⁸ Ibid.

³¹⁹ 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.

China and Russia also hold regular bilateral strategic security consultations, the latest—the tenth—round of which took place in Beijing in June 2014. According to the Chinese foreign ministry, representatives of the two states agreed, among other things, to “enhance strategic communication and cooperation,” though no further details were reported.³²⁰ At the eighth round, in Beijing in January 2013, the Chinese and Russian representatives reportedly discussed coordinating their response to the US plans on developing missile defense in Asia Pacific.³²¹

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).³²²

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.”³²³ The US-Russian Bilateral Presidential Commission’s 2013 report stated that the group would continue to discuss strategic stability and “seek mutually acceptable solutions on missile defense.”³²⁴ In spring 2014, in response to Russia’s intervention in Ukraine, the United States suspended parts of the Bilateral Presidential Commission’s work. Although the two sides have kept open communication channel on nuclear arms control issues and continued implementation of the New START (see Action 4), prospects for further bilateral arms control steps remain dim in light of the worsened relations and continued disagreements on missile defense, non-strategic nuclear weapons, and strategic conventional weapons.

After the United States officially accused Russia of violating the INF Treaty, representatives of the two countries conducted consultations in fall 2014, and the process is reportedly ongoing. Commenting on the consultations to *Arms Control Today* in October 2014, US Under-Secretary of

³²⁰ “The 10th Round of China-Russia Strategic Security Consultation Held in Beijing,” Ministry of Foreign Affairs of the People’s Republic of China, June 6, 2014, www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1164083.shtml.

³²¹ Sergei Blagov, “Russia Seeks Stronger Security Ties with China,” *Eurasia Daily Monitor*, Vol. 10, No. 14 (January 25, 2013), www.janetown.org.

³²² 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.

³²³ “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. See also the 2014 Action Plan Monitoring report, www.nonproliferation.org/2014-npt-action-plan-monitoring-report/.

³²⁴ 2013 US-Russian Bilateral Presidential Commission Joint Report, December 27, 2013, www.state.gov/documents/organization/219326.pdf. Reporting period covers May 2012-December 2013.

State Rose Gottemoeller said that both Washington and Moscow reaffirmed the importance of the INF and expressed a “desire to see the treaty continue into the future.”³²⁵

NATO-Russia

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.³²⁶ The Wales NATO Summit in September 2014 upheld the decision to suspend civilian and military cooperation with Russia, but the summit declaration noted that “political channels of communications...remained open.”³²⁷

The two sides normally engaged in dialogue through the NATO-Russia Council (NRC) established in 2002.³²⁸ 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.”³²⁹ Even before the suspension of cooperation, the Council had not been successful 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 reportedly did not even contain any nuclear weapons related topics.³³⁰

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.³³¹ The NATO Secretary-General’s annual report for 2013 indicated that discussions on possible cooperation on missile defense “made little headway.”³³² 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.”³³³

³²⁵ Daniel Horner and Daryl G. Kimball, “Arms Control in the Near Term: An Interview With Under Secretary of State Rose Gottemoeller,” *Arms Control Today*, November 2014.

³²⁶ “Statement by NATO Foreign Ministers,” NATO-Russia Council website, April 1, 2014, www.nato-russia-council.info/en/articles/20140327-announcement/.

³²⁷ Wales Summit Declaration, North Atlantic Treaty Organization, September 5, 2014, paragraph 22, www.nato.int/cps/ic/natohq/official_texts_112964.htm.

³²⁸ Please see “NATO’s Relations with Russia,” Official NATO website, www.nato.int/cps/en/natolive/topics_50090.htm

³²⁹ Please see “NATO-Russia Council,” Official NATO website, www.nato.int/cps/en/SID-93331D27-9292E54B/natolive/topics_50091.htm.

³³⁰ 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.

³³¹ “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

³³² “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.

³³³ “The Future of Missile Defence: A NATO Perspective,” Speech by NATO 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.

The dialogue on non-strategic nuclear weapons also has not progressed since 2010. 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.³³⁴ (See 2014 Monitoring Report.) NATO, however, suspended the work of this committee in April 2014 as part of the overall suspension of cooperation with Russia.

Both Russia's 2014 and 2010 military doctrines placed NATO and missile defense at the top of the list of threats to Russia's security. The 2014 doctrine also leaves open a "window for agreement with the United States and NATO" on missile defense.³³⁵ In January 2015, Foreign Minister Sergey Lavrov reiterated this sentiment during his annual address on the state of diplomatic performance. He cited the speculations that the Secretary General of NATO Jens Stoltenberg "would be interested in organizing a contact on the sidelines of an international meeting" and noted that Russia would be willing to participate in such a meeting.³³⁶

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. During the 2014 session, the conference held a series of informal meetings to discuss issues related to the CD agenda items, including nuclear disarmament, banning the production of fissile material for nuclear weapons, negative security assurances, and others.³³⁷ The Informal Working Group (IWG), first established in 2013, met for three sessions during 2014 but was unable to reach consensus on a proposal for a CD program of work.³³⁸

During the 2014 session, no CD presidents proposed a draft program of work. (For the discussion of proposals considered during the 2013 session, see the 2014 Monitoring Report.) The latest attempt to adopt a program of work was undertaken in January 2015, under the presidency of Mexico. The draft program proposed by Mexico provided for the commencement of negotiations in 2015 on seven items of the CD agenda, beginning with effective measures for nuclear disarmament under agenda item 2.³³⁹ The majority of CD members expressed their support for Mexico's draft and

³³⁴ 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/>.

³³⁵ Vladimir Dvorkin, "Nuclear Weapons in Russia's Amended Military Doctrine," Carnegie Moscow Center, January 22, 2015, <http://carnegie.ru/eurasiaoutlook/?fa=58774>.

³³⁶ "Foreign Minister Sergey Lavrov's address an annual news conference on Russia's diplomatic performance in 2014," Moscow, January 21, 2015, http://www.mid.ru/brp_4.nsf/0/D1AFD0A22ABD9AB443257DD4004F33B5.

³³⁷ A detailed report of the coordinators of informal discussion meetings (document CD/1995, August 25, 2014) is available at <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G14/148/45/PDF/G1414845.pdf>.

³³⁸ Final Report on the Work of the Informal Working Group, CD/2000. September 4, 2014, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G14/156/18/PDF/G1415618.pdf?OpenElement>.

³³⁹ Draft Programme of Work for the 2015 Session, CD/2014, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G15/022/37/PDF/G1502237.pdf?OpenElement>; Agenda for the 2015 Session,

were prepared to adopt the program of work on January 29, 2015. Iran, however, requested more time to consider the draft, while Pakistan sought to introduce amendments, reiterating its opposition to the start of FMCT negotiations under the Shannon mandate. When the CD President Ambassador Jorge Lomonaco declined the requests for both more time and an amendment, Pakistan formally objected to the draft program and blocked its adoption.³⁴⁰

Citing the CD's inability to achieve any progress in 17 years and observing that the body had "lost perspective of the bigger picture of human suffering and global injustice," on March 10, 2015, Women's International League for Peace and Freedom (WILPF) announced its decision to cease engagement with the Conference on Disarmament.³⁴¹ WILPF also criticized the CD members' resistance to reforming the working methods of the conference, its rules of procedure, and civil society engagement. For many years, WILPF (known to many through its Reaching Critical Will project) was the only civil society organization reporting on the CD proceedings. Pledging to "continue to focus our time and energy on other more promising forums and initiatives," WILPF stated that they would return to the CD should it ever begin to work again.

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

As discussed under Action 6, the CD has failed to adopt a program of work for the 2015 session.

During the informal meetings in 2014, CD members discussed the issue of negative security assurances but did not reach any agreement.³⁴² Four of the five NWS continue to oppose the idea of a multilateral, legally-binding instrument on negative security assurances and cite their declaratory policies and legally-binding commitments under the protocols to NWFZ treaties as sufficient.

CD/2008, January 20, 2015, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G15/007/63/PDF/G1500763.pdf?OpenElement>.

³⁴⁰ "Conference on Disarmament Fails to Adopt Programme of Work under First Presidency of 2015," Meeting Summary, UN Office at Geneva, January 29, 2015, [www.unog.ch/unog/website/news_media.nsf/\(httpNewsByYear_en\)/E0DBB840D628A279C1257DDC0054DFD2](http://www.unog.ch/unog/website/news_media.nsf/(httpNewsByYear_en)/E0DBB840D628A279C1257DDC0054DFD2).

³⁴¹ International Women's Day Statement to the Conference on Disarmament, WILPF, March 10, 2015, reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2015/statements/part1/10March_WILPF.pdf.

³⁴² See CD/1995, <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G14/148/45/PDF/G1414845.pdf>.

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, 2010.³⁴³ Sixty-eight delegates spoke at the meeting, recognizing both recent successes in disarmament and the lack of concrete progress in the CD.³⁴⁴ 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).³⁴⁵

During its 67th session, the UN General Assembly adopted resolution A/RES/67/56 on Taking Forward Multilateral Nuclear Disarmament Negotiation (see Action 6 in the 2013 Monitoring Report), which provided for the establishment of an Open-Ended Working Group (OEWG) to take up this issue. The OEWG met for three sessions in May, June, and August 2013. Not constrained by the CD agenda and rules of procedure, the group discussed a wide variety of topics related to nuclear disarmament and involved in its work states outside the CD, as well as civil society. (For more on the OEWG discussions, see Action 6 of the 2014 Monitoring Report.) The group's final report included a summary of discussions and papers by the OEWG participants, but the group did not adopt any specific proposals for multilateral negotiations.³⁴⁶ None of the NWS took part in the OEWG deliberations. The NWS also did not react directly to the OEWG report at the 2013 First Committee session, but repeated their view that new initiatives were diverting attention from the "practical, step-by-step approach" as the only route to nuclear disarmament.³⁴⁷

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 and convening the next session in 2014. However, both the 2013 and 2014 First Committee sessions adopted follow-up resolutions that leave open the possibility of reconvening the Open-Ended Working Group in the future, should there be no progress in advancing multilateral disarmament negotiations in other fora.³⁴⁸

³⁴³ "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 65th Session of the General Assembly of the United Nations, www.un.org/en/ga/65/meetings/disarmament.shtml.

³⁴⁴ "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.

³⁴⁵ "Revitalizing the Work of the Conference on Disarmament and Taking Forward Multilateral Disarmament Negotiations," United Nations General Assembly 65th Session Plenary Meeting, 27-29 July 2011, www.un.org/disarmament/content/news/ga65-113/.

³⁴⁶ The report is available at www.reachingcriticalwill.org/images/documents/Disarmament-fora/OEWG/Documents/finalreport.pdf.

³⁴⁷ 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 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.

³⁴⁸ "Taking Forward Multilateral Nuclear Disarmament Negotiations," A/C.1/69/L.21, adopted on October 29, 2014, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/resolutions/L21.pdf.

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.

No new doctrinal documents indicating change in the NWS policies on negative security assurances were released during the reporting period (April 2014-April 2015).

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.³⁴⁹ 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."³⁵⁰

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."³⁵¹ 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 1995.³⁵²

³⁴⁹ Unilateral declarations contained in UN documents S/1995/261, S/1995/262, S/1995/263, and S/1995/264.

³⁵⁰ "Statement on Security Assurances Issued on 5 April 1995 by the People's Republic of China," contained in the UN document S/1995/265.

³⁵¹ China's National Defense in 2010, released on March 30, 2011, www.china.org.cn/government/whitepaper/node_7114675.htm

³⁵² Please see "Support and Assistance to Strengthening the Nuclear Non-Proliferation Regime," France TNP website, www.francetnp2010.fr/spip.php?article84

In his February 2015 speech, French President Hollande “reaffirm[ed] that France will not use nuclear weapons against non-nuclear-weapon states parties to the Nuclear Non-Proliferation Treaty which comply with their international non-proliferation obligations in terms of weapons of mass destruction.”³⁵³ Though the statement suggests a reaffirmation of existing policy, the phrasing differs from the negative security assurance formulated by France in 1995, which did not specifically mention compliance with WMD-related agreements. In October 2014, France ratified the protocol to the Central Asian NWFZ Treaty (see Action 9).

Russia

No change

The new military doctrine, released in December 2014, did not introduce any changes to Russia’s policy on security assurances. Russia ratified Protocols to the African NWFZ Treaty in 2011, and President Putin submitted the protocol to the Central Asian NWFZ Treaty to State Duma (lower house of Parliament) for ratification in March 2015.³⁵⁴ (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.³⁵⁵

This provision limited the scenarios for possible use compared to the 1998 Strategic Defence Review.³⁵⁶ 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.”³⁵⁷ In January 2015, the United Kingdom ratified the protocol to the Central Asian NWFZ Treaty.³⁵⁸

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 states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.”³⁵⁹ 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).

³⁵³ “France Will Not Lower Its Nuclear Guard, Vows President,” Speech by Francois Hollande, Istres, February 19, 2015, www.ambafrance-uk.org/France-will-not-lower-its-nuclear.

³⁵⁴ “Putin Submits Protocol to Treaty on Nuclear-Free Zone in Central Asia for Ratification,” TASS, March 13, 2015, available at in.rbth.com/news/2015/03/13/putin_submits_protocol_to_treaty_on_nuclear-free_zone_in_central_asia_fo_41961.html.

³⁵⁵ 2010 UK SDSR, p. 37-38.

³⁵⁶ 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.

³⁵⁷ 2010 UK SDSR, p. 38.

³⁵⁸ “UK Ratified the Protocol to the CANWFZ Treaty,” British Embassy Tashkent, March 3, 2015, www.gov.uk/government/world-location-news/uk-ratified-the-protocol-to-the-canwzf-treaty.

³⁵⁹ Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. 15.

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.³⁶⁰

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

³⁶⁰ “Status of the Member States and Signatories to the Treaty of Tlatelolco,” OPANAL website, www.opanal.org/opanal/tlatelolco/p-tlatelolco-i.htm

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.³⁶¹

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.

In February 2012, Argentina lodged a protest with the United Nations, 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.³⁶² (See the 2014 Monitoring Report for more.)

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

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.³⁶³

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.³⁶⁴

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

³⁶¹ 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/Infcircs/Others/inf262.shtml

³⁶² “UK Sent Nuclear Sub near Falklands, Says Argentina,” BBC, February 10, 2012, www.bbc.co.uk/news/world-latin-america-16993391

³⁶³ 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/

³⁶⁴ Inventory of International Organizations and Regimes, 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.

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.”³⁶⁵

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 persist in relation to 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.”³⁶⁶ 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.³⁶⁷

In December 2011, Australia’s ruling Labor Party, at a national party conference, adopted a decision to allow the export of uranium to India.³⁶⁸ “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, 2011.³⁶⁹ In October 2012, during her visit to India, Australia’s then-Prime Minister Julia Gillard and Indian Prime Minister Manmohan

³⁶⁵ 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/2011sptreaty_msg_rel.pdf.

³⁶⁶ South-Pacific Nuclear-Free Zone Treaty text, <http://cns.miis.edu/inventory/pdfs/aptspnfz.pdf>.

³⁶⁷ 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; 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.

³⁶⁸ 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.

³⁶⁹ Ibid.

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.

Australian Prime Minister Tony Abbot signed a nuclear cooperation deal with his Indian counterpart, Narendra Modi, on September 5, 2014. The statement made by Prime Minister Modi's office said that Australia would provide "long-term reliable supplies of uranium" to India.³⁷⁰ During a press conference in New Delhi in January 2015, the Australian Minister of Trade and Infrastructure Andrew Robb insisted that the nuclear cooperation agreement had already received political clearance and only the more technical issues were to be resolved. That is, the two sides were working out the "administrative arrangement" for implementation of the agreement, which would include safeguards provisions. Mr. Robb stated that procedures that needed to be clarified related to "how much oversight will be given by the international authority within power stations, within uranium plants across India."³⁷¹

The agreement is currently under consideration in the Australian Parliament. John Carlson, former director general of Australia's Safeguards and Non-Proliferation Office, in his written submissions to the parliament, has raised concerns about insufficient safeguards provisions in the agreement and lack of requirement of prior written consent for the reprocessing or further enrichment of Australian-obligated nuclear material.³⁷² He and other experts have pointed out in particular the absence of provisions that would allow for detailed accounting and tracking of the material supplied by Australia, as well as apparent willingness of the Australian government to waive the accounting requirement.³⁷³ Carlson, who supports nuclear cooperation with India in principle, also underscored that India did not have to make any new commitments, such as joining the CTBT or stopping the production of fissile material for nuclear weapons, to obtain the nuclear trade deal with Australia.

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)

³⁷⁰ Kelsey Davenport, "Australia, India Sign Uranium Deal," *Arms Control Today*, October 1, 2014.

www.armscontrol.org/ACT/2014_10/News/Australia-and-India-Sign-Uranium-Deal.

³⁷¹ "Australia confident of early nuclear cooperation agreement with India," *The Hindu*, January 12, 2015, <http://www.thehindu.com/news/national/australia-confident-of-early-nuclear-deal-with-india/article6781357.ece>

³⁷² These and other submissions regarding nuclear cooperation agreement are available on the website of the Australian Parliament: www.aph.gov.au/Parliamentary_Business/Committees/Joint/Treaties/28_October_2014/Public_Hearings. For analysis, also see Mark Hibbs, "'India's Bilateral Obligations,'" *Arms Control Wonk* blog, February 7, 2015, <http://hibbs.armscontrolwonk.com/archive/3062/indias-bilateral-obligations>.

³⁷³ Ibid. See also John Carson, "Is the Abbot Government Abandoning Australia's Nuclear Safeguards Standards for India?" *The Interpreter*, Lowy Institute for International Policy, October 1, 2014, www.lowyinterpreter.org/post/2014/10/01/Is-the-Abbott-Government-abandoning-Australias-nuclear-safeguards-standards-for-India.aspx?COLLCC=78773605&.

None (Target: 5)

As of April 2015, 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

No progress since 2012

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.³⁷⁴ 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.”³⁷⁵ 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.³⁷⁶ 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.”³⁷⁷

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

³⁷⁴ “ASEAN FMs Agree on Nuclear-Free Zone,” Xinhua, November 16, 2011, 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/; 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

³⁷⁵ Statement at the Conference on Disarmament, January 24, 2012, www.reachingcriticalwill.org/political/cd/2012/statements/part1/24January_US.pdf

³⁷⁶ Based on information from diplomats familiar with consultations.

³⁷⁷ “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-seanwzf-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

postponed, reportedly because some of the NWS informed ASEAN that they would express reservations or attach interpretative statements to their signatures.³⁷⁸ 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.³⁷⁹ 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 2015, 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, 10 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. 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, ten NPT states parties have joined the Pelindaba Treaty: Angola, Cameroon, Chad, Comoros, Congo, Ghana, Guinea-Bissau, Namibia, Seychelles, and Zambia.³⁸⁰ Angola and Seychelles were the latest to deposit their instruments of ratification, in June

³⁷⁸ “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

³⁷⁹ 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.

³⁸⁰ Cameroon ratified the Treaty of Pelindaba in June 2009, but deposited its instrument of ratification only in September 2010. The list of countries which have signed, ratified/acceded to the African Nuclear-Weapon-Free Zone Treaty (The Treaty of Pelindaba), African Union website,

2014 and May 2014, respectively.³⁸¹ The Sahrawi Arab Democratic 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, 39 states are party to the Treaty (excluding the Sahrawi Arab Democratic Republic). Fourteen states that had signed the treaty before 2010 have yet to ratify it (including Morocco, which is not an AU member).³⁸² 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 15 eligible countries that have yet to join the African NWFZ.³⁸³

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—had 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.”³⁸⁴ 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.

<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.

³⁸¹ The list of states parties to the African Nuclear-Weapon-Free Zone Treaty (The Treaty of Pelindaba), UN Office for Disarmament Affairs Treaties Database, disarmament.un.org/treaties/t/pelindaba. The list excludes Morocco, which is not an African Union member but signed the African NWFZ treaty in 1996.

³⁸² In the 2012 Monitoring report, Morocco was mistakenly counted as a member state. However, it has not yet ratified the Treaty of Pelindaba.

³⁸³ This includes Morocco and South Sudan.

³⁸⁴ “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/.

On May 2, 2011, the Obama administration submitted Protocols I and II for Senate advice and consent to ratification.³⁸⁵ No action has been taken since 2011, and it is unclear whether the issue will be addressed in 2014.

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.³⁸⁶

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.³⁸⁷ 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.³⁸⁸ 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 (AFCON), 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 elected 12 commissioners for a three-year term and endorsed the decision to establish the

³⁸⁵ 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; Inventory of International Organizations and Regimes, www.nti.org/treaties-and-regimes/african-nuclear-weapon-free-zone-anwfz-treaty-pelindaba-treaty/

³⁸⁶ NPT Comprehensive Safeguards Agreements: Overview of Status, IAEA, www.iaea.org/Publications/Factsheets/English/nptstatus_overview.html

³⁸⁷ See "India Wants South African Uranium" Global Security Newswire, October 19, 2011, 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>

³⁸⁸ "India Offers Namibia \$100 mn, Signs Nuclear Deal," *IndiaAfrica Connect*, August 31, 2009, www.indiaafricaconnect.in/index.php?param=news/244/the-big-story/114

headquarters of AFCONE in South Africa.³⁸⁹ 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 its chairman and vice-chairman and to establish a process to appoint an executive secretary."³⁹⁰ 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."³⁹¹ The Third Ordinary Session convened on November 11-12, 2013 in Pretoria. It approved the establishment of two AFCONE working groups: one to monitor states parties' compliance and address nuclear and radiation safety and security issues, and the second to address issues of nuclear sciences and applications and technical cooperation. The session also considered but did not adopt the draft national reporting template.³⁹² The Fourth Ordinary Session took place on May 27, 2014 in Addis Ababa. Its conclusions were not publically available at the time of this writing.

The Second Conference of States Parties took place in November 2012 and the Third Conference in May 2014, both in Addis Ababa.³⁹³

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)

Significant progress

France, the United Kingdom and the United States had long opposed the CANWFZ treaty and refused to recognize the zone, due to the provisions of the Tashkent (Collective Security Organization) Treaty (see below). The situation, however, changed after the consultations with the Central Asian states in 2013, and the three NWS agreed to sign the protocol along with Russia and China. CANWFZ states parties agreed to the protocol to be signed with reservations.

All five NWS signed the protocol to the Central Asian NWFZ Treaty on May 6, 2014, on the margins of the NPT PrepCom meeting. France and Russia attached reservations to their signatures, and the United Kingdom made an interpretative statement. The United States is expected to attach reservations at the ratification stage.

³⁸⁹ Institute for Strategic Studies report, October 2011, p. 7.

³⁹⁰ 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>

³⁹¹ "Africa: The African Commission on Nuclear Energy Convenes Its Second Meeting," Press Release, July 26, 2012, <http://allafrica.com/stories/201207261025.html>

³⁹² Third Ordinary Session of the African Commission on Nuclear Energy: Conclusions, Pretoria, South Africa, November 11-12, 2013, www.peaceau.org/uploads/conclusions-3rd-csp-pelindaba-en.pdf.

³⁹³ Conclusions of the Third Conference of States Parties are available on the African Union website: www.peaceau.org/uploads/conclusions-3rd-csp-pelindaba-en.pdf.

Along with its standard reservation regarding self-defense and reference to UNSC Resolution 984 (1995), France made a number of other reservations, especially relating to Articles 4 and 12 of the CANWFZ Treaty. France reserves the right not to be bound by the provisions of the protocol (Article 1) in case one of the other parties to the protocol (NWS) contributes to the violation of the CANWFZ Treaty, especially if such violations result from the implementation of agreements concluded prior to CANWFZ.³⁹⁴ It further stated that under no circumstances should Article 12 of the CANWFZ Treaty be interpreted in ways that would permit actions contrary to Articles 3 and 5 (main prohibitions). Similarly, the United Kingdom stated at the time of signature that it would not be bound by the negative security obligations under the protocol if any of the CANWFZ parties is in breach of its obligations, and that Article 12 of CANWFZ does not override the prohibitions contained in Articles 3 and 5.³⁹⁵

The reason for these reservations is that Article 12 states that the CANWFZ Treaty “does not affect the rights and obligations of the Parties under other international treaties” concluded before CANWFZ entered into force. Kazakhstan, Kyrgyzstan, and Tajikistan (and previously Uzbekistan), together with Russia, are parties to the Collective Security Treaty (Tashkent Treaty), Article 4 of which stipulates that member states would provide “necessary assistance, including military one,” to a member state that comes under attack. France, the United Kingdom, and the United States are concerned that Russia and the Central Asian states might interpret the Tashkent Treaty as allowing the deployment of Russian nuclear weapons in the region, despite the prohibitions stipulated in the CANWFZ Treaty.

France also stated that obtaining permission from CANWFZ parties for transit through their territories,³⁹⁶ in accordance with Article 4 of the Central Asian Treaty, would not constitute a violation of the protocol or the treaty. Russia, on the other hand, made the opposite reservation, stating that it would not be bound by the protocol if any of the CANWFZ parties “allows foreign military vessels and aircraft with nuclear weapons or other nuclear explosive devices aboard to call at its ports and landing at its aerodromes, or any other form of transit of nuclear weapons or other nuclear explosive devices through its territory.”³⁹⁷

France ratified the protocol in October 2014 and deposited its instrument of ratification on November 17, 2014. The United Kingdom deposited its instrument of ratification of the protocol on January 30, 2015.³⁹⁸

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

³⁹⁴ For the full text of reservations (in French), please see <https://s3.amazonaws.com/unoda-web/wp-content/uploads/2015/02/R%C3%A9serves-fran%C3%A7aises-CANWFZ-Protocol.pdf>.

³⁹⁵ For the full text of the UK interpretative statement, please see UNODA Treaty Database at http://disarmament.un.org/treaties/a/canwfz_protocol/unitedkingdomofgreatbritainandnorthernireland/sig/bishkek.

³⁹⁶ Presumably of aircraft or vessels carrying nuclear weapons.

³⁹⁷ “Putin Submits Protocol to Treaty on Nuclear-Free Zone in Central Asia for ratification,” TASS, March 13, 2015.

³⁹⁸ See UN Office for Disarmament Affairs Treaty Database, disarmament.un.org/treaties/t/canwfz_protocol.

Progress

Russian President Putin submitted the protocol to the CANWFZ Treaty to the lower house of the Parliament (State Duma) for ratification on March 12, 2015.³⁹⁹

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

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, 2011.⁴⁰⁰

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.⁴⁰¹

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 and does not have a comprehensive safeguards agreement with the IAEA. India's Additional Protocol entered into force in July 2014. 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."⁴⁰² The two countries signed a nuclear cooperation agreement in April 2011, with official remarks indicating that Kazakhstan would sell over 2,000 tons of uranium to

³⁹⁹ "Putin Submits Protocol to Treaty on Nuclear-Free Zone in Central Asia for ratification," TASS, March 13, 2015.

⁴⁰⁰ Conclusion of Additional Protocols: Status as of 20 February 2012, IAEA, www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf.

⁴⁰¹ Central Asian Nuclear-Weapon-Free Zone Treaty text (emphasis added), Inventory of International Organizations and Regimes, CNS, <http://cns.miis.edu/inventory/pdfs/apcanwz.pdf>

⁴⁰² "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. See NTI website, Kazakhstan nuclear chronology, www.nti.org/media/pdfs/kazakhstan_nuclear.pdf?_id=1316466791.

India by 2014.⁴⁰³ 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.⁴⁰⁴

In October in 2013, it was reported that Uzbekistan, too, was in talks with India regarding uranium supply.⁴⁰⁵ In August 2014, according to Indian media, state-owned mining company that controls all uranium mining in Uzbekistan "signed up to supply 2,000 metric tonnes of Uranium ore concentrate to India over the next four years."⁴⁰⁶

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: 10

Since May 2010, a total of eleven states ratified the CTBT.⁴⁰⁷ The latest country to do so was Angola, on March 20, 2015. Congo ratified the treaty on September 2, 2014.⁴⁰⁸ The CTBT now has 164 states parties and another 19 signatories that have not yet ratified the treaty.

⁴⁰³ "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, and "Kazakhstan, India Sign Energy Deals," RIA Novosti, April 16, 2011, <http://en.rian.ru/business/20110416/163555805.html>.

⁴⁰⁴ 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.

⁴⁰⁵ 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>.

⁴⁰⁶ Anil Sasi, "India Widens N-fuel Base, Sign up Uzbek Firm for Uranium Supplies," *The Indian Express*, August 27, 2014, indianexpress.com/article/business/business-others/india-widens-n-fuel-base-signs-up-uzbek-firm-for-uranium-supplies/.

⁴⁰⁷ These are Brunei Darussalam, Chad, Congo, Ghana, Guatemala, Guinea, Guinea-Bissau, Indonesia, Iraq, and Niue. The 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/.

⁴⁰⁸ See CTBTO website: <http://www.ctbto.org/the-treaty/status-of-signature-and-ratification>

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, 2012.⁴⁰⁹ Two more Annex 2 states that are non-nuclear weapon states party to the NPT have yet to ratify the CTBT: Egypt and Iran.

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 action

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."⁴¹⁰

In its report to the 2014 NPT PrepCom, China highlighted its support for the CTBT verification regime and the role that IMS sessions located on its territory had played in monitoring the 2013 DPRK nuclear test and the spread of radioactive substances after the 2011 Fukushima Daichi nuclear accident.⁴¹¹

Egypt

No action

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. More recently, 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.⁴¹² 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.⁴¹³

⁴⁰⁹ "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. To enter into force, the CTBT must be ratified by 44 states listed in 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.

⁴¹⁰ 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.

⁴¹¹ Implementation of the Treaty on the Non-Proliferation of Nuclear Weapons in the People's Republic of China, NPT/CONF.2015/PC.III/13, April 29, 2014.

⁴¹² Statement at the Article XIV Conference, New York, September 2011, www.ctbto.org/fileadmin/user_upload/Art_14_2011/Statements/Egypt.pdf.

⁴¹³ 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.

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 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. 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.⁴¹⁴ Speaking in the Marshall Islands in March 2013, Under-Secretary Gottemoeller stated that the understanding of the “dangerous health effects of nuclear explosive testing” contributed to the US motivations for the pursuit of nuclear disarmament.⁴¹⁵ However, judging by recent remarks, the focus of the CTBT information campaign appears to have shifted from the lawmakers to the general public, with emphasis on the humanitarian impact of nuclear testing.⁴¹⁶

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 2002.⁴¹⁷

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.

⁴¹⁴ 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.

⁴¹⁵ 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.

⁴¹⁶ Remarks by Rose Gottemoeller, US Under-Secretary of State for Arms Control and International Security, at the Carnegie Nuclear Policy Conference, March 23, 2015.

⁴¹⁷ 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.

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

Yes

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

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 4.9.⁴¹⁸ 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.⁴¹⁹ 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. 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. The United Kingdom has 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 (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, 2012.⁴²⁰ The next subcritical experiment, named Lyra, is scheduled for 2015.⁴²¹ 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

⁴¹⁸ 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/

⁴¹⁹ 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/

⁴²⁰ 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>.

⁴²¹ "Los Alamos Conducts Important Hydrodynamic Experiment in Nevada," Los Alamos National Laboratory news releases, September 8, 2014, www.lanl.gov/discover/news-release-archive/2014/September/09.08-nevada-hydrodynamic-experiment.php. The experiment conducted in August 12, 2014, named Leda, was a hydrodynamic (using surrogate nuclear material) rather than subcritical test.

and materials to ensure long-term viability, security and safety.”⁴²² Construction of facilities covered by this agreement is in progress in both countries, and first experiments at the EPURE facility in France were conducted in 2014.⁴²³ 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.⁴²⁴ 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

⁴²² “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%E2%80%93france-summit-2010-declaration-on-defence-and-security-co-operation/

⁴²³ Technology Development Centre is under construction at Aldermaston in the UK, and France is developing the Épure radiographic and hydrodynamics facility at Valduc.

⁴²⁴ 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. 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.

statements.⁴²⁵ Of the Annex 2 states parties to the NPT, only Iran did not deliver a statement, though it did attend the conference.

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.⁴²⁶ 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, which took place in September 2013, 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.⁴²⁷ 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.⁴²⁸

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 2015, 53 states had paid their contributions for 2015 in full, including France, Russia, and the United Kingdom. China and the United States had yet to make any of their payments for 2015. Six states had partially paid their current year contributions; 42 had not paid their contributions for 2015; and 82 states had their voting rights suspended for past dues.⁴²⁹ The year-end collection results for 2014, however, were strong, with collection rates amounting to 94.2

⁴²⁵ "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, 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/. Information on the number of attending states courtesy of the CTBTO Preparatory Commission.

⁴²⁶ 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.

⁴²⁷ 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

⁴²⁸ Ibid.

⁴²⁹ Latest status of payments available at the CTBTO website, [ctbto.org/member-states/member-states-payments/](http://www.ctbto.org/member-states/member-states-payments/).

percent for both the US dollar and the Euro portion, a slight decrease down from 96.4 for the US dollar and 96.3 for the Euro in 2013.⁴³⁰

In addition to the regular budget, some states and intergovernmental organizations, notably the European Union, provide voluntary contributions to the CTBTO. Voluntary contributions may be “in-kind” (e.g. equipment) or in cash. In 2012 the Preparatory Commission’s website noted that such contributions had “increased significantly” since 2010, certainly a positive development.⁴³¹ Overall voluntary contributions have increased from \$210,898 in 2005 to \$35,948,570 in 2012. In that same time period, voluntary contributions as a percentage of the regular budget increased from 0.2 to 27.79.⁴³²

Between September 2012 and August 2013, the United States, the largest single contributor to the CTBTO, provided \$7.5 million in funding, supporting 25 projects focused on accelerating the development of the CTBT verification regime.⁴³³ 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 2014.⁴³⁴ 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.⁴³⁵

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).⁴³⁶ 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.”⁴³⁷

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.”⁴³⁸ This contribution follows the EU’s 5.3 million Euro contribution made in July 2010.⁴³⁹

⁴³⁰ CTBTO Member States’ payments as at 31 December 2014, available at:

http://www.ctbto.org/fileadmin/user_upload/treasury/52_31Dec_2014_Member_States_Payments_01.pdf and

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.

⁴³¹ See CTBTO website, www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/.

⁴³² “The Secretariat of the CTBTO Preparatory Commission: Looking Back over 15 Years,” CTBTO Anniversary Book, May 2013, www.ctbto.org/fileadmin/user_upload/public_information/Annivesary_Book.pdf.

⁴³³ Ibid.

⁴³⁴ Ibid., p. 23.

⁴³⁵ 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, p.22.Ibid.

⁴³⁶ “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/>

⁴³⁷ “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/.

⁴³⁸ “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/.

⁴³⁹ See CTBTO website, www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/.

Many other countries provide smaller voluntary contributions and cosponsor outreach activities, workshops, and trainings organized jointly with the CTBTO.⁴⁴⁰ There have been no new voluntary contribution announcements since January 2014. However, many contributions from 2013 were intended for, and directed to, projects throughout 2013 and 2014, such as the Integrated Field Exercise conducted in late 2014.

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

Yes

As of March 2015, 47 states had concluded facility agreements with the CTBTO Preparatory Commission, and nine of them (with Cameroon, Cape Verde, Chile, Ecuador, Italy, Kuwait Oman, Portugal, and Sri Lanka) have not yet entered into force.⁴⁴¹ Overall, since May 2010, seven states have signed facility agreements with CTBTO. The latest state to sign a facility agreement was Ecuador, on February 24, 2015. 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 entered into force on February 14, 2014, and Israel's did on February 20, 2014. Uganda signed and brought into force a new agreement in 2012.⁴⁴² According to the CTBTO Preparatory Commission, facility agreements need to be signed with 43 more states.⁴⁴³

The number of certified IMS stations went up from 255 in April 2010 to 281 by February 2015, making the IMS system 85 percent complete.⁴⁴⁴ As of February 12, 2015, there were also 19 stations undergoing testing, 19 under construction, and 18 planned. This brings the IMS total to 337.⁴⁴⁵ No new facilities began construction in 2013, and information on facilities that began construction in 2014 was unavailable at the time of this writing. Eighteen planned facilities are to be located in

⁴⁴⁰ Information courtesy of CTBTO Preparatory Commission. Full list of states that provide voluntary contributions was not available.

⁴⁴¹ "Facility Agreements," CTBTO website, www.ctbto.org/member-states/facility-agreements/.

⁴⁴² "Uganda Signs Facility Agreement," CTBTO website, June 15, 2012, www.ctbto.org/press-centre/highlights/2012/uganda-signs-facility-agreement/.

⁴⁴³ "Facility Agreements," CTBTO website, www.ctbto.org/member-states/facility-agreements/.

⁴⁴⁴ See CTBTO website, www.ctbto.org/map/, use the International Monitoring System tab on the right for exact numbers.

⁴⁴⁵ CTBTO website, www.ctbto.org/map/, Click on "show today" on the timeline to see current information in the right-hand sidebar.

Argentina, Central African Republic, Ecuador, Egypt, French Guiana, Iran, Nepal, Pakistan, United Kingdom (Antarctica), and the United States (Antarctica).⁴⁴⁶ Another four facilities, originally planned to be located in India, have not been assigned new locations.⁴⁴⁷

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. Both infrasound stations, at Kunming in Southern China and in Beijing, are still under construction. Until 2013, none of these stations had been connected to the CTBTO's International Data Centre (IDC) in Vienna.⁴⁴⁸ CTBTO Executive Secretary Lassina Zerbo has 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."⁴⁴⁹

The CTBTO successfully concluded its largest and most sophisticated Integrated Field Exercise (IFE) in December 2014 in Jordan.⁴⁵⁰ This was the second IFE, designed to "test and train the organization's on-site inspection capabilities in an all-encompassing way."⁴⁵¹ The first such exercise was conducted in Kazakhstan in 2008.⁴⁵² From November 3 to December 9, 2014, IFE14 simulated an almost entire on-site inspection, responding to a fictional but technically realistic scenario. The inspection team "conducted a meticulous search of a clearly defined inspection area to establish whether or not a nuclear explosion had been conducted."⁴⁵³

The successful completion of IFE14 has strengthened the CTBTO verification regime, bringing the on-site inspection capability to a high level of readiness, in line with the other two verification components, the IMS and the International Data Center. CTBTO Executive Secretary Lassina Zerbo has stated that through the IFE14, the CTBTO has "shown the world that it is absolutely hopeless to try and hide a nuclear explosion" and that CTBTO has now "mastered all components of the verification regime."⁴⁵⁴ Over the coming year, the CTBTO and its Member States plan to analyze the lessons learnt from IFE14 and identify possible gaps. The first workshop to review the results of the exercise is taking place in Israel in April 2015.

⁴⁴⁶ See CTBTO website: http://www.ctbto.org/tiles/pdf/CTBTO-Map-IMS-2015-02-13-All_Stations-Planned.pdf

⁴⁴⁷ Information courtesy of CTBTO.

⁴⁴⁸ Ibid.

⁴⁴⁹ "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/>.

⁴⁵⁰ "Largest Ever CTBT On-Site Exercise Concludes Successfully," CTBTO, December 9, 2014, <http://www.ctbto.org/press-centre/press-releases/2014/largest-ever-ctbt-on-site-inspection-exercise-concludes-successfully/>.

⁴⁵¹ "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.

⁴⁵² "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/>.

⁴⁵³ Integrated Field Exercise 2014 homepage, CTBTO, www.ctbto.org/specials/integrated-field-exercise-2014/.

⁴⁵⁴ "Largest Ever CTBT On-Site Exercise Concludes Successfully."

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’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.⁴⁵⁵ Pakistan declined the invitation to send an expert to the group, arguing that the GGE would not produce any new insights and would instead undermine the Conference on Disarmament.⁴⁵⁶

⁴⁵⁵ Website of the United Nations Office at Geneva, [http://unog.ch/80256EE600585943/\(httpPages\)/B8A3B48A3FB7185EC1257B280045DBE3](http://unog.ch/80256EE600585943/(httpPages)/B8A3B48A3FB7185EC1257B280045DBE3).

⁴⁵⁶ “Conference on Disarmament Holds Focused Debate on a Treaty Banning the Production of Fissile Material,” Meeting Summary, UN Office at Geneva, February 26, 2015.

The Group has met for a total of four two-week sessions in Geneva in 2014 and 2015.⁴⁵⁷ On April 2, 2015, at its last session the GGE agreed on a final report, which will be presented to the UN Secretary General. He will then transmit the GGE report to the Conference on Disarmament and the 70th UNGA session in fall 2015.

At the 2014 session of the UN First Committee, the GGE's Chairperson, Ambassador Elissa Golberg of Canada, described the first two sessions as “substantive and highly interactive,” but did not elaborate on preliminary results of the GGE discussions. She stated, however, that the group had addressed topics ranging from legal arrangements and institutional structures, to technical details on definitions, scope, and verification that would be necessary for such a treaty. While acknowledging the existence of many divergent perspectives on these issues, she was optimistic about the utility of the forthcoming GGE report in helping shape future treaty negotiations.⁴⁵⁸

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. The IPFM estimates that China's stockpile of fissile materials includes 12-20 metric tons of weapon-grade HEU and 1.3-2.3 metric tons of weapon-grade plutonium.⁴⁵⁹

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 30 and 32 metric tons, while the stockpile of weapon-grade plutonium is 5-7 metric tons.⁴⁶⁰

⁴⁵⁷ “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, reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L41.pdf.

⁴⁵⁸ “Statement by Ambassador Elissa Golberg, Ambassador and Permanent Representative of Canada to the United Nations in Geneva and Conference on Disarmament: First Committee of the 69th Session of the United Nations General Assembly, Thematic Discussion on Nuclear Weapons,” October 20, 2014, available at reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/statements/20Oct_GGEFMCT.pdf.

⁴⁵⁹ “Countries: China,” International Panel on Fissile Materials, <http://fissilematerials.org/countries/china.html>.

⁴⁶⁰ “Countries: France,” International Panel on Fissile Materials, <http://fissilematerials.org/countries/france.html>.

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 under the Plutonium Management and Disposition Agreement with the United States.⁴⁶¹ Under the US-Russia HEU Purchase Agreement (Megatons to Megawatts), concluded in 1993, Russia designated for downblending 500 metric tons of HEU in excess of defense needs. The program was completed in December 2013. Russia did not declare any more fissile material in excess of defense needs during the reporting period,

The IPFM estimates that Russia's fissile material stocks include 695 metric tons of HEU, most of it in military stockpile, and 128 metric tons of weapon-grade plutonium.⁴⁶²

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 INFCIRC/549, as part of an overall stock of civil unirradiated plutonium stored at reprocessing plants.⁴⁶³ The United Kingdom has previously declared 4.4 metric tons of plutonium in excess of defense purposes.⁴⁶⁴ 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.⁴⁶⁵ 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.⁴⁶⁶ No additional material was declared during the reporting period. According to the US reporting under INFCIRC/549, as of December 31, 2013, 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."⁴⁶⁷ These numbers remained the same since the previous report. 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.⁴⁶⁸

⁴⁶¹ See David Albright and Christina Walrond, "Civil Separated Plutonium in the INFCIRC/549 States – Taking Stock," ISIS, September 17, 2010, <http://isis-online.org/isis-reports/detail/civil-separated-plutonium-in-the-infcirc-549-states-taking-stock/>

⁴⁶² "Fissile Material Stocks," International Panel on Fissile Materials, <http://www.fissilematerials.org/>.

⁴⁶³ Albright and Walrond, "Civil Separated Plutonium in the INFCIRC/549 States – Taking Stock."

⁴⁶⁴ UK Strategic Defence Review, 1998, Fissile material management.

⁴⁶⁵ "Historic Accounting for UK Defence Highly Enriched Uranium," Report by the Ministry of Defence, March 2006.

⁴⁶⁶ "Annual Figures for Holding of Civil Unirradiated Plutonium," Communication from the United States of America, September 20, 2011, INFCIRC/549/Add.6/14.

⁴⁶⁷ Annual Figures for Holding of Civil Unirradiated Plutonium," Communication from the United States of America, October 6, 2014, INFCIRC/549/Add.6/17.

⁴⁶⁸ 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.

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.⁴⁶⁹ 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 disposition.⁴⁷⁰ It appears that the total amount of HEU slated for downblending was 226 metric tons; the NNSA website, however, indicates that to date, 186 metric tons of HEU have been slated for downblending.⁴⁷¹ NNSA further reports that over 143 metric tons of this HEU has been downblended or “delivered for near-term downblending.”⁴⁷² HEU is not included in the US reports to the IAEA under INFCIRC/549.

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. 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.⁴⁷³ 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.⁴⁷⁴

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. Russia and the United States had invited the IAEA to verify the

⁴⁶⁹ “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>.

⁴⁷⁰ 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>.

⁴⁷¹ US HEU Disposition Program, National Nuclear Security Administration, nnsa.energy.gov/aboutus/ourprograms/dnn/fmd/heu. The 40 metric tons difference might be “uncommitted material.” Also, the 226 metric tons total does not include 9 metric tons of irradiated fuel removed as part of the Global Threat Reduction Initiative.

⁴⁷² In March 2012, NNSA indicated it had downblended 127 metric tons of excess HEU. See “US Uranium Down-Blending Activities: Fact Sheet,” NNSA, March 23, 2012, nnsa.energy.gov/mediaroom/factsheets/usuraniumdownblending.

⁴⁷³ Facilities under Agency Safeguards or Containing Safeguarded Material on 31 December 2009, IAEA Annual Report, www.iaea.org/Publications/Reports/Anrep2009/table_a25.pdf.

⁴⁷⁴ “Global Fissile Material Report 2011,” IPFM, p. 32.

implementation of the Plutonium Management and Disposition Agreement, but consultations on the verification arrangements have stalled in recent years. With the future of MOX facility in the United States in question, it is also unclear how implementation of the PMDA will proceed there (see Indicator 16.3 and Action 7).

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.⁴⁷⁵ In 2013, in a statement to Parliament, the government stated that, “the material from dismantled warheads is returned to the MOD nuclear material stockpile. It is not government policy to place this material under international safeguards.”⁴⁷⁶

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.⁴⁷⁷

United States

Yes, partially

Between 1993 and 1998, the United States had placed 12 tons of fissile material under voluntary IAEA safeguards.⁴⁷⁸ In 1999-2006, the United States downblended 50 metric tons of its surplus HEU, with the downblending facility being under the IAEA safeguards.⁴⁷⁹

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.⁴⁸⁰ 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

⁴⁷⁵ UK Strategic Defence Review, 1998.

⁴⁷⁶ “Global Fissile Materials Report 2013,” IPFM, p.33.

⁴⁷⁷ 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.

⁴⁷⁸ 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. 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/>.

⁴⁷⁹ “Management of High Enriched Uranium for Peaceful Purposes: Status and Trends,” International Atomic Energy Agency, IAEA-TECDOC-1452, June 2005, p. 18.

⁴⁸⁰ NPT Compliance, National Nuclear Security Administration, www.nnsa.energy.gov/ourmission/managingthestockpile/nptcompliance; International Safeguards, US Nuclear Regulatory Commission, www.nrc.gov/about-nrc/ip/intl-safeguards.html.

in warheads or in pits” stored at a site where warhead assembly and disassembly takes place.⁴⁸¹ 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

Under the Protocol to the US-Russian Plutonium 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.”⁴⁸² Plutonium will be used to produce MOX fuel for BN-800, which is expected to begin operations in the second half of 2015.⁴⁸³ The Amendment of the PMDA (originally signed in 2000) “reduces the agreed rate of plutonium disposition from no less than two tons per year to no less than 1.3 tons per year.”⁴⁸⁴ The disposition of material has not commenced yet and is planned to start in 2018. As indicated earlier, the work on verification arrangements for PMDA has stalled in recent years. Russia and the United States had invited the IAEA to verify the implementation of the agreement, but consultations on the verification arrangements have stalled in recent years (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.⁴⁸⁵ 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.⁴⁸⁶

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.⁴⁸⁷ No updates on the project’s implementation were available at the time of this writing.

⁴⁸¹ “Global Fissile Material Report 2010,” IPFM, p. 37.

⁴⁸² Para 104, 2010 NPT Review Conference National Report, Russian Federation.

⁴⁸³ “The Startup of BN-800 Might Take Place in the Second Half of 2015 – Romanov” (in Russian), ITAR-TASS, March 1, 2015, atominfo.ru/news/r0349.htm.

⁴⁸⁴ “Global Fissile Material Report 2011,” IPFM, p. 17.

⁴⁸⁵ Para 103, 2010 NPT Review Conference National Report.

⁴⁸⁶ “Global Fissile Material Report 2011,” IPFM, p. 8

⁴⁸⁷ Countries: Russia, IPFM Blog, <http://fissilematerials.org/countries/russia.html>

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.⁴⁸⁸ 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.⁴⁸⁹ 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.⁴⁹⁰ In the January 2014 position paper, NDA stated that reuse as fuel (in MOX, CANDU or PRISM reactors) continued to be the preferred option. However, NDA also concluded that it did not yet have "sufficient understanding of the options to confidently move into implementation."⁴⁹¹

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).⁴⁹² None of this material has been designated in excess of defense needs.

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. Pursuant to PMDA (see Russia above), 34 metric tons were designated to be used for production of MOX fuel, irradiated in civilian reactors, and disposed of as spent fuel.⁴⁹³ Construction of a MOX fuel production facility had begun in Savannah River, South Carolina, but due to rising costs was placed on "cold standby" in early 2014 and is slated to remain so at least throughout the 2015 fiscal year.⁴⁹⁴ Experts judge that it is unlikely that the construction will resume.⁴⁹⁵ In the meantime, NNSA has been converting the plutonium taken out of warhead pits

⁴⁸⁸ "Global Fissile Material Report 2011," IPFM, p. 3.

⁴⁸⁹ "Plutonium: Credible Options Analysis (Gate A)," UK Nuclear Decommissioning Authority, 2010, <http://www.nda.gov.uk/publication/plutonium-credible-options-analysis-redacted-2010/>. "Plutonium Strategy: Current Position Paper," UK Nuclear Decommissioning Authority, February 2011, p. 6, <http://www.nda.gov.uk/wp-content/uploads/2009/01/NDA-Plutonium-Current-Position-February-2011.pdf>.

⁴⁹⁰ "Has Prism Cracked the Plutonium Problem?" *Professional Engineering*, July 31, 2012, <http://energyandnuclear.com/2012/07/31/has-prism-cracked-the-plutonium-problem/>.

⁴⁹¹ "Progress on Approaches to the Management of Separated Plutonium," Position Paper, UK Nuclear Decommissioning Authority, January 2014, <http://www.nda.gov.uk/publication/progress-on-approaches-to-the-management-of-separated-plutonium-position-paper/>.

⁴⁹² "Global Fissile Material Report 2011," IPFM, p. 10.

⁴⁹³ IAEA INFCIRC/549/Add.6/13, December 15, 2010.

⁴⁹⁴ Mycle Schneider, "Damning U.S. Department of Energy Audit on Cost and Schedule Overruns at the MOX Fabrication Facility at the Savannah River Site," IPFM Blog, June 7, 2014, fissilematerials.com/blog/2014/06/damning_us_department_of.html.

⁴⁹⁵ Pavel Podvig, "United States Puts MOX Fuel Fabrication Facility on Cold Standby," IPFM Blog, March 5, 2014, fissilematerials.org/blog/2014/03/united_states_puts_mox_fu.html.

into plutonium oxide, as a feedstock for the future MOX production.⁴⁹⁶ In April 2014, Department of Energy completed an assessment of alternatives for disposition of weapons-grade plutonium in light of the difficulties encountered in constructing the MOX facility. The options reviewed included the use of plutonium in metal fuel for fast-burner reactors, immobilization with high-level waste, downblending and disposal, and deep borehole disposal. The downblending and disposal option, which entails the mixing of plutonium oxide with inhibitor materials and permanent disposal in a repository, appeared to be the most effective. The study has concluded, however, that further in-depth analysis of the fast burner reactor option is needed.⁴⁹⁷ It remains unclear how the PMDA will be implemented in the United States.

The United States is also downblending HEU taken out of military stockpile. There are four ongoing projects within the framework of surplus HEU disposition (the fifth completed in 2006). As discussed under Indicator 16.1, 186 metric tons of HEU have been slated for downblending and to date, over 143 metric tons have been converted to LEU or delivered for downblending.⁴⁹⁸ 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.⁴⁹⁹ 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.

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 and have not indicated an intention to make new declarations during the reporting period.

⁴⁹⁶ “NNSA Completes Milestones for Initial Steps in Plutonium Disposition,” NNSA press release, November 16, 2012.

⁴⁹⁷ “Report of the Plutonium Disposition Working Group: Analysis of Surplus Weapon-Grade Plutonium Disposition Options,” US Department of Energy, April 2014, <http://nnsa.energy.gov/sites/default/files/nnsa/04-14-inlinefiles/SurplusPuDispositionOptions.pdf>.

⁴⁹⁸ “US HEU Disposition Program.” NNSA Website: <http://nnsa.energy.gov/aboutus/ourprograms/dnn/fmd/heu>

⁴⁹⁹ “DOE, NNSA Announce Availability of Reserve Stockpile of Nuclear Power Reactor Fuel Material from Downblending of Surplus Weapons-Usable Uranium,” NNSA press release, August 18, 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/doennsaafs81811>

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.⁵⁰⁰ 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.”⁵⁰¹ 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.”⁵⁰² 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.⁵⁰³ The verification arrangement, previously expected to be presented to the Board of Governors in 2012, has not been completed yet and work on it appears to have stopped. Speaking at the UN First Committee session in 2014, US representative stated that the United States remained committed to implementing the PMDA and “working with Russia toward a verification agreement for each side’s disposition program.”⁵⁰⁴

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 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.)

⁵⁰⁰ Please see IAEA INFCIRC/806, September 16, 2010.

⁵⁰¹ Ibid.

⁵⁰² Plutonium Management and Disposition Agreement (PMDA) synopsis, US Defense Threat Reduction Agency.

⁵⁰³ Remarks made under the Chatham House rule.

⁵⁰⁴ Remarks by Ambassador Robert A. Wood, Alternate Representative, Delegation of the United States of America, Sixty-Ninth UNGA First Committee Thematic Discussion on Nuclear Weapons, October 20, 2014, <http://www.state.gov/t/avc/rls/2014/233179.htm>.

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.⁵⁰⁵

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 1989.⁵⁰⁶ 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.⁵⁰⁷ 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

Yes: Decommissioning in progress/completed

France stopped producing plutonium for nuclear weapons in 1992 and HEU in 1996.⁵⁰⁸ France has announced the decommissioning of its Pierrelatte (HEU) facility and reported in 2014 that the decommissioning of Marcoule (reprocessing) facility will be completed in 2035. France has organized tours for diplomats and media to visit the sites in 2008 and 2009.⁵⁰⁹

⁵⁰⁵ Note, however, that shut-down facilities can remain shut down but not dismantled for many years.

⁵⁰⁶ “Global Fissile Material Report 2010,” IPFM, p. 97.

⁵⁰⁷ 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/ and www.cnncc.com.cn/2006-10-17/000047102.html (in Chinese). Other sites are co-located with civilian nuclear facilities.

⁵⁰⁸ Countries: France, IPFM, <http://fissilematerials.org/countries/france.html>

⁵⁰⁹ “Stopping Fissile Material Production for Nuclear Weapons,” France NPT website, www.francetnp.fr/?article92

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.⁵¹⁰ 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).⁵¹¹ 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 2015.⁵¹² Two reprocessing plants in Russia, in Seversk and Zheleznogorsk, are also designated for shutdown,⁵¹³ though no timelines are available from open sources.

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 2010.⁵¹⁴ 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.”⁵¹⁵ 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.⁵¹⁶ The other Capenhurst enrichment plant is civilian and operated by the private firm, URENCO.

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 cleanup work concluded ahead of schedule in mid-2014.⁵¹⁷ The Department of Energy (DOE) reportedly plans to build a K-25 History Center at the site.⁵¹⁸ Demolition of the K-31 gaseous diffusion building began in late 2014 and is expected to be completed in 2015. The next building to be demolished, starting in 2015, is K-27. The completion of the demolition

⁵¹⁰ SIPRI 2011 Yearbook, p. 358, www.sipri.org/yearbook/2011/files/SIPRIYB1107-07A.pdf

⁵¹¹ Plutonium Production Reactors Agreement Fact Sheet, NNSA, September 2011.

⁵¹² “Железнодорожный 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.

⁵¹³ Appendix 3, “Global Fissile Material Report 2011,” IPFM, p. 33.

⁵¹⁴ “Global Fissile Material Report 2010,” p.83; exact dates vary for different reactors.

⁵¹⁵ Ibid. For detailed decommissioning plans see the “Lifetime Plans” for Windscale, Calder Hall, and Chapelcross, all available at www.nda.gov.uk

⁵¹⁶ See Capenhurst, UK National Decommissioning Authority, www.nda.gov.uk/ukinventory/sites/capenhurst/

⁵¹⁷ “All K-25 Project Work Wraps Up,” Oak Ridge Office of Environmental Management, DOE, June 26, 2014, <http://energy.gov/orem/articles/all-k-25-project-work-wraps>.

⁵¹⁸ “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

and cleanup of K-27, slated for 2016, will “mark the first-ever complete cleanup of a gaseous diffusion plant and facilities.”⁵¹⁹ In 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.⁵²⁰ 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.⁵²¹ 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.⁵²² 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.⁵²³ The cocooning of Reactor N was announced as complete in June 2012, with the placement of the reactor in interim safe storage for about 75 years.⁵²⁴ Five other reactors were cocooned by 2005. One more reactor at Hanford was turned into a museum.⁵²⁵

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.⁵²⁶ The action item was thus meant to encourage this and possible other collaborative projects on nuclear disarmament verification.

⁵¹⁹ “Demolition of K-31 Gaseous Diffusion Facility Begins,” Oak Ridge Office of Environmental Management, DOE, October 8, 2014, See website: <http://energy.gov/orem/articles/demolition-k-31-gaseous-diffusion-building-begins>

⁵²⁰ “DOE Awards Clean Up Contract for Portsmouth Decontamination and Decommissioning,” US Department of Energy press release, August 13, 2010.

⁵²¹ “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/fedfacs/savriyscareas.html

⁵²² “Energy Department Wants to Remove Hanford Reactor Rather Than Cocooning It,” Associated Press, October 19, 2010.

⁵²³ “K East Reactor to Be in Surveillance Mode to Await Cocooning,” *Tri-City Herald*, February 14, 2013, www.tri-cityherald.com/2013/02/14/2274804/k-east-reactor-to-be-in-surveillance.html.

⁵²⁴ “N Reactor Placed in Interim Safe Storage: Largest Hanford Reactor Cocooning Project Now Complete,” US Department of Energy, June 14, 2012, <http://energy.gov/em/articles/n-reactor-placed-interim-safe-storage-largest-hanford-reactor>

⁵²⁵ “Hanford: Projects and Facilities,” U.S. Department of Energy, www.hanford.gov/page.cfm/ProjectsFacilities

⁵²⁶ 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.

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.⁵²⁷ 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.⁵²⁸ 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.⁵²⁹ In March 2013, the UK Permanent Representative to the CD stated that the two countries would continue to share information on the project.⁵³⁰ 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.⁵³¹ Very little further information on UKNI continuation has been publicly available since 2013.

The United States and United Kingdom are also collaborating on developing warhead dismantlement verification as part of their Technical Cooperation Program. 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 subsequently held 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.⁵³² 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.”⁵³³

In December 2014, US Department of State, in collaboration with the Nuclear Threat Initiative (NTI), launched the new International Partnership for Nuclear Disarmament Verification (IPNDV). The

⁵²⁷ “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

⁵²⁸ “UK Norway Workshop: Questions Answered,” United Kingdom-Norway Initiative, <https://registration.livgroup.co.uk/ukniworkshop/FAQ/#faq10>.

⁵²⁹ “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>.

⁵³⁰ 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.

⁵³¹ “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.

⁵³² 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.

⁵³³ Author’s correspondence with an NNSA official familiar with this project, April 2014.

partnership builds on the results of NTP's Verification Pilot Project, completed in early 2014, that had groups of experts tackle such issues as verifying the elimination of nuclear weapons and involvement of non-nuclear weapon states in such work.⁵³⁴ The new verification partnership is designed to bring together experts from a diverse group of nuclear- and non-nuclear weapon states to “consider verification challenges across the nuclear weapons lifecycle—including material production and control, warhead production, deployment, storage, dismantlement, and disposition.”⁵³⁵ IPNDV will also take into account the lessons learned from the UK-Norway Initiative and US-UK Technical Cooperation Program. The partnership's inaugural meeting took place on March 19-20, 2015 in Washington, DC, and involved representatives of 28 states.⁵³⁶

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

By end of March 2015, only four states parties – Finland, France, Ireland, and Portugal – had submitted their national reports on the implementation of the NPT and the Action Plan ahead of the 2015 Review Conference. Two more states—Kyrgyzstan and Mongolia—reported on activities related to their respective nuclear-weapon-free zones.⁵³⁷

Fourteen states parties—Australia, Austria, Canada, China, France, Germany, Japan, Mexico, the Netherlands, New Zealand, Russia, Switzerland, the United Kingdom, and the United States—each submitted a national report to the 2014 NPT PrepCom. Australia, Austria, Canada, New Zealand, and Switzerland updated their reports from previous PrepComs. At the 2012 NPT PrepCom, Australia, Canada, New Zealand, and the Republic of Korea submitted national reports. At the 2013 NPT PrepCom, Austria, Canada, New Zealand and Switzerland submitted their national reports. At each of the PrepCom sessions during this review cycle, Iran submitted reports specifically on Article VI and the establishment of a zone free of weapons of mass destruction in the Middle East.

The level of reporting remains very low, and overall for the 2010-2015 review cycle, the rate of reporting has not exceeded 9 percent of the NPT membership.

⁵³⁴ “Verification Pilot Project,” NTP website, www.nti.org/about/projects/verification-pilot-project/.

⁵³⁵ “Facts on Partnership for Nuclear Disarmament Verification,” Fact sheet, US Department of State, Bureau of Arms Control, Verification, and Compliance, March 20, 2015, <http://translations.state.gov/st/english/texttrans/2015/03/20150320314387.html#axzz3XJK6g7gx>.

⁵³⁶ Frank Rose, “How Do You Create the Tools to Verify a World without Nuclear Weapons?” DipNote, US Department of State Official Blog, April 13, 2015, <http://blogs.state.gov/stories/2015/04/13/how-do-you-create-tools-verify-world-without-nuclear-weapons>.

⁵³⁷ See official website of the 2015 NPT Review Conference at www.un.org/en/conf/npt/2015/national-reports.shtml.

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 reporting form and establish regular reporting intervals

Progress

At the 2013 NPT PrepCom, the Non-Proliferation and Disarmament Initiative (NPDI) proposed a NWS standard reporting form. The proposed form called for detailed information on a range of issues, including the number, types, and status of nuclear warheads and delivery systems; the amount of fissile material produced and declared in excess of military needs; measures undertaken to reduce the risk of use of nuclear weapons; negative security assurance policies; and others.⁵³⁸ Although the initial reaction to the proposal from the NWS was guarded, they eventually took it into consideration in their P5 consultations.

The five NWS agreed on a standard reporting format in advance of the 2014 NPT PrepCom. The form does not focus on nuclear disarmament alone but covers the three pillars of the NPT (disarmament, nonproliferation, and peaceful uses). It is organized as follows:

- I. Reporting on national measures related to disarmament
 - A. Nuclear security policies, doctrine, and activities associated with nuclear weapons
 - B. Nuclear weapons, nuclear arms control (including nuclear disarmament) and verification
 - C. Transparency and confidence-building measures
 - D. Other related issues
- II. Reporting on national measures relating to **non-proliferation**
 - A. Safeguards
 - B. Export controls
 - C. Nuclear security
 - D. Nuclear-weapon-free zones
 - E. Compliance and other issues
 - F. Other contributions to non-proliferation of nuclear weapons
- III. Reporting on national measures relating to the **peaceful uses of nuclear energy**
 - A. Promoting peaceful uses
 - B. Technical assistance through the IAEA to its member states
 - C. Nuclear safety and civil nuclear liability
 - D. Other related issues.

⁵³⁸ Transparency of Nuclear Weapons, Working Paper submitted by the NPDI to the 2012 NPT Preparatory Committee session, NPT/CONF.2015/PC.I/WP.12, April 20, 2012, available at www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom12/documents/WP12.pdf

Indicator 21.2. NWS begin to report according to the adopted standard

Yes

At the 2014 PrepCom, the five NWS submitted their first national reports pursuant to Action 21 (as well as Actions 5 and 20). While each of the reports followed the above standard format, there were significant differences in terms of breadth and depth of information provided (See Action 5, Indicator 5.g1.). Section headings were not nearly as specific as those suggested by NPDI and, ultimately, the NWS reporting fell below the NNWS' and civil society's expectations. The U.S. report was the most detailed, but for the most part, the NWS did not provide any new information. The most useful aspect of the NWS reporting under Action 21 so far seems to be the consolidation in one place of information previously available from a variety of sources. According to NPDI diplomats, the group is approaching individual NWS regarding the ways to improve reporting.⁵³⁹

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.⁵⁴⁰ Reports submitted by the NWS to the 2014 PrepCom have been uploaded to the repository.

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,⁵⁴¹ 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.⁵⁴²

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.⁵⁴³ Five UNSG reports on DNP education have been released to date,

⁵³⁹ Remarks by a senior NPDI diplomat in a closed meeting in October 2014, and conversation with another NPDI diplomat in December 2014.

⁵⁴⁰ Available at www.un.org/disarmament/WMD/Nuclear/Repository/.

⁵⁴¹ 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.

⁵⁴² Recommendation 32 of the UN Study also requests the UNSG to prepare a report biennially. Ibid.

⁵⁴³ 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 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 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 latest UNSG report on disarmament and nonproliferation education was released in summer 2014. While states generally support the importance of disarmament and nonproliferation education,⁵⁴⁴ reporting has been limited. The 2014 UNSG's report contained information from 10 states on their disarmament and nonproliferation education activities.⁵⁴⁵ With 10 being the highest number of states reporting per biennium, the level of participation in the reporting exercise remains low. Since the 2010 NPT Review Conference, only 18 states have submitted reports on their disarmament and nonproliferation education activities.

Overall, since the adoption of the UNGA Resolution in 2002, only 48 reports have been submitted to the United Nations by a total of 31 states (see table below). Both Japan and Mexico have submitted five reports to date, which is the highest number of submissions per country. New Zealand has submitted three reports, while Italy, Mauritius, and Spain has each submitted two. The Russian Federation, which reported in 2004, is the only nuclear weapon state to report on its implementation of the UN study on disarmament and nonproliferation education. Remarkably, several countries that do implement and finance projects to promote nuclear disarmament and nonproliferation education, such as Norway, have not reported to the UNSG at all. Australia, Canada, Switzerland, and the United States, while not submitting contributions for the UNSG report in recent years, included information on DNP education and implementation of Action 22 in their reports to the NPT PrepComs during current review cycle.

The amount of information provided in state reports varies widely, as do states' resources and capabilities. Some reports are fairly detailed and others only state that the reporting country does not possess WMD and supports disarmament education. Some reports contain no information pertaining to nuclear or WMD disarmament and nonproliferation, as they focus on small arms and conventional weapons. Japan has been particularly active in undertaking and reporting on measures dealing with nuclear disarmament and nonproliferation education, and in its 2010 report stated that it believed in the "utmost importance of disarmament and nonproliferation education, especially for the younger generation."⁵⁴⁶ In 2014, both El Salvador and Mexico reported on efforts to engage the Latin American community on DNP education. El Salvador cited its participation in the special meeting on Inter-American Support for the Comprehensive Nuclear Test-Ban Treaty and

⁵⁴⁴ 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.

⁵⁴⁵ The same number reported in 2012. Contributions to the Report of the Secretary-General on Disarmament and Non-Proliferation Education Received by the Office for Disarmament Affairs, 2014 submissions, www.un.org/disarmament/education/2002UNStudy/2014SGreportcontributions.shtml.

⁵⁴⁶ The details of Japan's activities can be found in its 2010 reply, www.un.org/disarmament/education/docs/SGReport65contributions/MemberStates/Japan.pdf

Disarmament and Non-Proliferation Education in 2010. Mexico announced it was organizing the “first summer course on nuclear disarmament and non-proliferation aimed at Latin American diplomats” in July 2014.⁵⁴⁷

Overview of report submissions⁵⁴⁸

Year	UNSG Report Symbol	States that submitted reports	Total state reports
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
2014	A/69/113	Argentina, Austria, Cuba, El Salvador, Germany, Iraq, Japan, Mexico, Panama, Portugal	10
TOTAL		31 States	48 Submissions

* Nuclear weapon states

For a more detailed overview of past UNSG reports, please see the 2013 Monitoring Report.⁵⁴⁹

Several states and groups have addressed the issue of disarmament and nonproliferation education at the PrepCom meetings during current NPT review cycle.. 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.⁵⁵⁰ The Nonproliferation and Disarmament Initiative (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.⁵⁵¹ In their respective national reports submitted to the PrepComs, Australia (2012, 2014), Austria (2013, 2014), Canada (2012), New Zealand (2012, 2013, 2014), Russia (2014), Switzerland (2013), and the United States (2014) provided information on their support for DNP education and implementation of Action 22.

⁵⁴⁷ “Disarmament and non-proliferation education: Report of the Secretary General,” A/69/113, June 30, 2014, http://www.un.org/ga/search/view_doc.asp?symbol=A/69/113.

⁵⁴⁸ Turkmenistan, Germany, and Argentina were not originally included in the UNSG reports in 2010, 2012, and 2014, respectively. Added by Addendum 1.

⁵⁴⁹ 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.

⁵⁵⁰ “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.

⁵⁵¹ “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.

Japan has delivered several statements on the importance of DNP education, the latest of which, at the 2014 PrepCom session, was sponsored by 36 states. The second DNP education statement delivered by Japan at the 2014 PrepCom was on behalf of NPDI. The statement on behalf of the European Union included disarmament and nonproliferation education among EU's 24 hopes for the 2015 Review Conference. Education was mentioned in the national statements of Austria, Czech Republic, and Kyrgyzstan.⁵⁵² DNP education was also referenced in the Recommendations by the Chair to the 2015 NPT Review Conference, submitted under his own authority.⁵⁵³

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.⁵⁵⁴ To date, there have been seven General Assembly resolutions on DNP education, and they do not differ significantly in substance. All six 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 continued to increase and reached 60 in 2014.⁵⁵⁵

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 2014, 2012, 2010, and 2008 resolutions, while France was a co-sponsor of the 2004 resolution. In 2012, the United States for the first time co-sponsored the DNP education resolution and did so again in 2014.

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

⁵⁵² For 2014 Prep Com Statements, see Reaching Critical Will, http://www.reachingcriticalwill.org/documents/statements?toolbar_year=2014&toolbar_forum=2&toolbar_country=0&toolbar_topic=0.

⁵⁵³ “Chairman’s Working Paper,” NPT/CONF.2015/PC.III/WP.46, May 8, 2014, <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom14/documents/WP46.pdf>

⁵⁵⁴ The years and symbols of the DNP resolutions are as follows: 2014 (A/RES/69/65); 2012 (A/RES/67/47); 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).

⁵⁵⁵ For the list of lead sponsors, see draft resolution adopted by the UNGA First Committee at <http://reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com14/resolutions/L53.pdf>; additional sponsors are listed in a Conference Room Paper at <http://www.un.org/en/ga/first/69/PDF/CRP4.Rev.8.pdf>.

on states in the Middle East to take practical steps towards establishing the WMD-free zone in the 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.⁵⁵⁶ 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, and no new date has been set for the conference. Between October 2013 and June 2014, informal multilateral consultations achieved some progress towards agreement on the conference agenda, modalities, and rules of procedure, but those meetings have since stopped (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.⁵⁵⁷ 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.⁵⁵⁸ The

⁵⁵⁶ “Resolution on the Middle East,” NPT/CONF.1995/32 (Part I), www.un.org/disarmament/WMD/Nuclear/1995-NPT/pdf/Resolution_MiddleEast.pdf.

⁵⁵⁷ For a discussion of Israel’s reasoning, see Chen Kane, “2012 MEWMDZFZ 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-mewmdfz-conf-to-participate-or-not-to-participate-why-is-it-even-a-question-2/.

⁵⁵⁸ “2012 Conference on a Middle East Zone Free of Weapons of Mass Destruction (MEWMDZFZ),” Press Statement, Office of the Spokesman, US Department of State, November 23, 2012.

disagreement became even more apparent when, at the 2013 PrepCom session, the Russian representative stated that the co-conveners had no right to postpone the conference and the United States had made that decision unilaterally.⁵⁵⁹

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.⁵⁶⁰ 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 and September 2014. (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.⁵⁶¹ The INC resolution was defeated in both 2013 and 2014, in the latter case by a vote of 58 against, 45 in favor, and 27 abstaining.⁵⁶²

(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 all three PrepCom meetings of the current review cycle. According to the facilitator's report in 2012, all states in the region had confirmed their commitment

⁵⁵⁹ 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

⁵⁶⁰ See Mukhatzhanova, "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.

⁵⁶¹ 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_iaea_factsheet_middle_east.pdf.

⁵⁶² Record of the Eighth Meeting, Plenary, 58th Regular Session of the General Conference, International Atomic Energy Agency, September 25, 2014, www.iaea.org/About/Policy/GC/GC58/GC58Records/English/gc58or-8_en.pdf.

to establishing the zone free of nuclear weapons and all other WMD, yet disagreed on the process through which this should be accomplished.⁵⁶³ 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 conference, as well as substantive issues regarding the establishment of the zone. On May 1, 2014, the facilitator reported that he had continued his efforts and, together with the co-conveners, held three rounds of informal multilateral consultations in Switzerland (see below). Despite this engagement, the parties were still unable to agree on agenda and modalities and by the time of the 2014 PrepCom convened, no new date had been set for the conference.⁵⁶⁴

In an attempt to bring the regional states together and overcome disagreements, in 2013, 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 had 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, and another round in Geneva in June 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.⁵⁶⁵

At the informal multilateral consultations, according to the facilitator's report, the parties discussed the rules of procedure, modalities, and agenda for the Middle East conference, and presented their proposals. Diplomats familiar with the consultations said the participants had even started to address potential outcomes and next steps to be adopted.⁵⁶⁶ Still, they were not able to reach an agreement and after the June 2014 meeting, the Arab states decided to halt their participation in the multilateral consultations. The facilitator has subsequently tried to bring the parties together for another meeting. It remains unclear whether the consultations will resume after the 2015 Review Conference and whether the facilitator's mandate will be extended until the end of 2015 and/or beyond.

⁵⁶³ 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.

⁵⁶⁴ Report of the Facilitator to the Third Session of the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, May 1, 2014, NPT/CONF.2015/PC.III/18.

⁵⁶⁵ Conversations with officials familiar with the consultations, February and March 2014.

⁵⁶⁶ 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.

(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

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.⁵⁶⁷ 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.⁵⁶⁸

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.

⁵⁶⁷ 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.

⁵⁶⁸ The 2011 and 2012 Seminar Background Papers are available through the EU Non-Proliferation Consortium website: www.nonproliferation.eu/middleEastSeminar2012/firstSeminar and www.nonproliferation.eu/middleEastSeminar2012/secondSeminar.

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