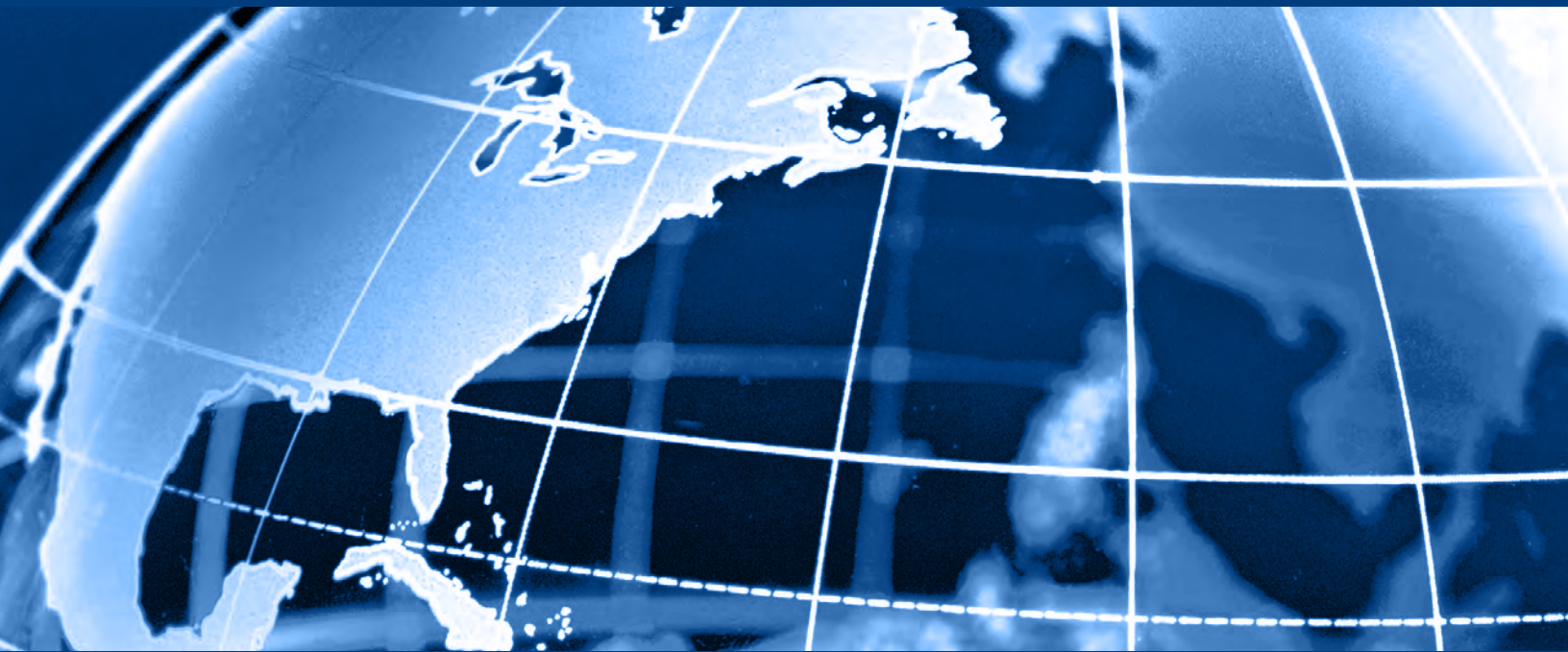


IMPLEMENTATION OF THE CONCLUSIONS AND RECOMMENDATIONS
FOR FOLLOW-ON ACTIONS
ADOPTED AT THE 2010 NPT REVIEW CONFERENCE
DISARMAMENT ACTIONS 1-22
2013 MONITORING REPORT



Gaukhar Mukhatzhanova

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INTRODUCTION

Almost three years have passed since the Eighth Review Conference (RevCon) of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) concluded on May 28, 2010 with the adoption by consensus of Conclusions and Recommendations for Follow-on Actions. It was the first time since 2000 that the NPT states parties were able to achieve consensus, if only on the forward-looking part of the final document.¹ 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. While the adoption of the “Action Plan” was widely and deservedly regarded as a success, its long-term impact depends on the implementation by the NPT states parties.

Tracking the implementation of the Action Plan and assessing progress, however, 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. With this in mind, the James Martin Center for Nonproliferation Studies (CNS) launched a project tracking the implementation of the 2010 Action Plan and providing regular assessments to all interested parties. This is the second implementation report and covers the first 22 action items on nuclear disarmament as well as recommendations on the Middle East.

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.

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. Indeed, only the disarmament section of the Conclusions and Recommendations was initially conceived as an action plan. The first draft recommendations tabled by the chair of the 2009 Preparatory Committee meeting called for the adoption of a disarmament action plan by the 2010 RevCon,² and the chair of Subsidiary Body (SB) 1 on disarmament, Ambassador Alexander Marschik, from the beginning formulated the draft SB 1 report as an action plan. Citing the need for a balance between the pillars of the treaty, several states, including France and Russia, argued that there should be action plans for nonproliferation and peaceful uses as well, which led to efforts to “retrofit” the language negotiated

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 For a discussion, see Miles Pomper, “Report from the NPT Preparatory Committee 2009,” CNS Feature Story, May 26, 2009, http://cns.miis.edu/stories/090526_npt_report.htm.

in Main Committees II and III and SB 3 into an action-plan format. 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 suffers from vagueness to a much greater extent. CNS decided, therefore, to first concentrate on developing an assessment methodology for the disarmament action plan, with a view that subsequent reviews may also cover nonproliferation and peaceful use pillars.

Methodology

To track implementation and assess progress, CNS developed a set of indicators of progress.³ 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.

Indicators form a framework conducive to a dynamic review: for each action item, it is possible to focus on tracking the measures implemented during a particular reporting period, as well as the cumulative progress. Over time, this should allow one to observe change, be it positive or negative, from year to year. That said, it was necessary to include in the report enough background information to provide context, especially where measures were implemented or commenced prior to the current reporting period.

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 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.;

³ Indicator in this sense is a sign of change, or reflection of a situation.

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

Finally, it is necessary to note that evaluation of progress in general is complicated by the near-absence of specific targets and deadlines in the Action Plan. It is not evident if all of the action items, or only some (and then, unclear which ones), are expected to be implemented by the 2015 RevCon—or by some other date, for that matter. NWS are supposed to report on the implementation of Action 5 in particular to the third Preparatory Committee (PrepCom) session in 2014, and the 2015 RevCon would then “take stock and consider the next steps,” but how much is really expected to be accomplished by then is up to different states to interpret for themselves.

Such ambiguity in targets and deadlines is not surprising, but does point to potential problems that are likely to arise further in the review cycle, as the NPT members attempt to assess progress. It is clear that expectations and ideas on just what constitutes “sufficient” (not to mention significant) progress will vary, and inability to cope with such differences would risk derailing the review of Action Plan implementation altogether.

Overview of Findings

The present report is cumulative, covering the developments since the 2010 Review Conference, though highlighting wherever possible the period from April 2012 to March 2013. Our assessment of implementation indicates that the overall progress since 2010 has been very limited and even appears to have slowed down since the 2012 PrepCom. Implementation has continued to be uneven across different NWS and action items, as were the starting points. In 2010, the United States was already more advanced in its level of transparency than other NWS; China had provided unilateral unconditional negative security assurances to NNWS; France had dismantled its facilities for producing fissile material for weapons, and so on.

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

The most significant progress was again observed on Action 4 on New START: Russia and the United States have been implementing the treaty since early 2011. At the same time, the two states have not been successful in overcoming their disagreements and advancing any follow-on measures.

Modest progress was made on Action 3 on reductions in arsenals: in addition to US-Russian bilateral reductions under the New START, the United Kingdom announced the decision to unilaterally reduce its overall arsenal to no more than 180 warheads.

There appears to have been some progress in the NWS consultations on transparency and disarmament verification since 2010. However, the extent of it is hard to judge, as the consultations are confidential and have yet to produce observable results, such as the adoption of a standard reporting form pursuant to Action 21. Overall, consultations among the nuclear weapon states, as called for in Action 5, are falling short of the expectations of the NNWS and seem to have broadened in focus from disarmament to the three “pillars” of the NPT. So far, the NWS were able to report only the establishment of a working group on terminology, and due to the confidentiality of consultations, it is unclear to what extent other issues listed in Action 5 have been addressed.

Compared to the first reporting period, there was modest progress on Action 22—implementation of disarmament and nonproliferation education recommendations adopted by the UN General Assembly in 2002. A record number of states submitted contributions for the Secretary-General’s implementation report issued in July 2012, though 10 states is not a very impressive record. The number of states co-sponsoring the biennial UN General Assembly (UNGA) resolution on disarmament and nonproliferation education also increased, and the United States joined this list for the first time in 2012.

An important area where progress has been lacking is the reduction of the role of nuclear weapons in military and security concepts (Action 5c, also covered under Action 1), which presumably should provide the overall context for the implementation of other concrete steps. The 2010 UK Strategic Defence and Security Review did signal a somewhat reduced role for nuclear weapons in the state’s doctrine, but at the same time the United Kingdom is still considering the replacement of Trident, which would preserve its “independent nuclear deterrent” and project national reliance on nuclear weapons for decades ahead. In the United States, military strategy released in 2012 does not exclude the possibility that the US “deterrence goals can be achieved with a smaller nuclear force,” and a new, as yet unrevealed, policy guidance reportedly recommends reducing the US arsenal to about 1,000 deployed warheads.⁴ That said, optimization of the size of nuclear forces does not necessarily entail a significant change in the role of nuclear weapons in the national security doctrine. The United States is likely to seek some sort of a new/follow-on arrangement with Russia to implement these cuts. Russia and France showed no signs of working on further reducing their reliance on nuclear weapons. Statements by then-Prime Minister Vladimir Putin in February 2012 suggesting that Russia might consider *strengthening* its “strategic deterrent” have not yet been translated into any new policies. NATO has also reaffirmed itself as a nuclear alliance.

After the positive developments on Action 9 in 2011, when Russia ratified the protocols to the Treaty of Pelindaba, and the five NWS settled their long-standing disagreement with ASEAN over the provisions of the Southeast Asian NWFZ treaty, progress in this area stalled. The US Senate has not yet considered the protocols to the Treaties of Rarotonga and Pelindaba, and the signing of the protocol to the Southeast Asian NWFZ treaty was postponed because several NWS decided to attach reservations or interpretative statements. Planned or ongoing nuclear cooperation with NPT

⁴ R. Jeffrey Smith, “Obama Administration Embraces Major New Nuclear Weapons Cut,” The Center for Public Integrity, February 8, 2013, www.publicintegrity.org/2013/02/08/12156/obama-administration-embraces-major-new-nuclear-weapons-cut

outlier India is flagged as a problematic area in the context of advancing NPT universality as well as implementing NWFZ treaties, particularly the Treaties of Central Asia, Pelindaba, and Rarotonga.

In terms of red flags, the report again notes the ongoing modernization of arsenals in the NWS with respect to the development and production of new delivery systems, upgrades of existing ones, increased “effectiveness” of weapons, and extension of their lifetime. Such projects signal continued, long-term reliance on nuclear weapons. During the reporting period, Russia in particular posted advances in production of new strategic nuclear submarines (SSBNs) and continued deployment of new intercontinental ballistic missiles (ICBMs). In the United States, arsenal modernization projects and decisions might be more affected by budgetary issues in coming years, with the plans for the new plutonium pit production facility already being reconsidered. Overall though, in updating the monitoring report, there appeared to be more developments to keep up with on modernization than on some of the key action items.

NPT states parties are approaching the second session of the PrepCom, which will convene in Geneva on April 22-May 3, 2013, against a mixed background. On the one hand, there is frustration with the stalemate at the traditional fora and stagnation in implementation of the Action Plan. On the other hand, many states—along with civil society—are enthusiastic about new approaches championed by NNWS. Some of the most remarkable developments since 2010 took place in the sphere covered by the Principles and Objectives in Part A of the Action Plan: humanitarian dimensions of the nuclear weapons problem. On March 4-5, 2013, Norway hosted the first international conference on Humanitarian Impact of Nuclear Weapons, focused on practical aspects such as potential effects of nuclear weapons use and preparedness for response. In spite of wide support among the NNWS and civil society, though, all five NWS refused to attend the conference, dubbing it a “diversion” from the step-by-step approach they prefer.

However, the factor that may have the biggest impact on the 2013 PrepCom and the rest of the review cycle is the failure to implement fully the recommendations concerning the establishment of a zone free of nuclear weapons and all other WMD in the Middle East. Though the NPT depositary states, together with the UN Secretary-General, did appoint a facilitator for the implementation of the 1995 Middle East Resolution and a host country, they were unable to convene the regional conference on the Middle East zone in 2012. Russia, the United Kingdom, and the United States could not even agree on how to characterize the postponement of the conference and each announced it separately, while the Arab states never formally agreed to the postponement. Recommendations on the Middle East were crucial to the outcome at the 2010 Review Conference, and further lack of progress in their implementation risks undermining the consensus achieved in 2010 and has implications for the NPT regime at large.

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, perhaps the most remarkable developments took place in the sphere covered by Point v of the Principles and Objectives: humanitarian dimensions of the nuclear weapons problem. The five NWS did not seem to perceive the issue as particularly salient when it was raised at the 2010 RevCon and were also unprepared to discuss it at the 2012 PrepCom. Some of the NWS referred to the 1996 Advisory Opinion of the International Court of Justice as settling the question of nuclear weapons' compatibility with international humanitarian law (IHL), while others simply stated that they take the humanitarian aspect into consideration in their nuclear policies.⁵ However, the call to more carefully consider humanitarian consequences of potential nuclear weapons use gained a lot of support among governments and civil society since May 2010. Led in particular by Switzerland and Norway, 16 NPT member states issued a 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.⁶ Support continued to grow, and at the UNGA First Committee

⁵ See Gaukhar Mukhatzhanova, "Calm before the Storm? Low-Key NPT PrepCom Meeting Avoids Acrimony," CNS, June 2012, http://cns.miis.edu/treaty_npt/120600_npt_prepcom_report.htm

⁶ "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 Review Conference of the States Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Vienna, May 2, 2012, www.un.org/disarmament/WMD/Nuclear/NPT2015/PrepCom2012/statements/20120502/SwitzerlandOnBehalfOf.pdf

session in fall 2012, the joint statement on humanitarian dimension was delivered on behalf of 34 states.⁷

On March 4-5, 2013, Norway hosted the first international conference on Humanitarian Impact of Nuclear Weapons. The conference agenda was focused not on disarmament or political issues per se but rather on practical aspects such as potential effects of nuclear weapons use and preparedness for response. Conference participants included representatives of 127 states (including NPT outliers India and Pakistan), international organizations, and civil society organizations, including the International Committee of the Red Cross. According to the Chair's summary, the conference concluded 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."⁸ Participating states expressed an interest in continuing this discussion and broadening its scope, and Mexico announced its decision to host a follow-up meeting on the humanitarian impact of nuclear weapons.

Despite the practical orientation of the agenda, the five nuclear weapon states (NWS) decided, in consultation with each other, not to attend the conference. Addressing the CD on March 5, 2013, NWS representatives argued that initiatives such as the conference in Oslo were a "diversion" from what they said was a more practical step-by-step approach. They further cautioned against undermining the existing mechanisms and said the focus should be on beginning negotiations at the CD, which has been deadlocked for more than 15 years, and implementing the 2010 NPT Action Plan.⁹ However, since the humanitarian dimension is referenced in Part A of the 2010 Action Plan itself, it is not clear how the discussion of humanitarian consequences undermines the said Action Plan. NWS criticism notwithstanding, the issue will continue to be prominent throughout the current review cycle and has the potential to reshape the debate in the longer term.

The most "actionable" phrasing in the Principles and Objectives is found in Point vi on universality of the NPT. There has been no progress in this area in the three years since the 2010 Review Conference, and there appears to be no reason to expect progress in the near future. In 2008, the Nuclear Suppliers Group (NSG) adopted an exemption to its guidelines, thus allowing nuclear trade with India, even though it does not have comprehensive safeguards and is not recognized as a nuclear weapon state under the NPT. Since then, several NPT member states have concluded or begun negotiating nuclear cooperation agreements with India, and none of them seem to have put forth conditions that would have advanced NPT universality. The United States, who initiated and promoted the NSG exemption, has also expressed support for India's joining the suppliers' group (which was created in response to India's 1974 "peaceful nuclear explosion").¹⁰ Though there is 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

⁷ "Joint Statement on the Humanitarian Dimension of Nuclear Disarmament," 67th Session of the United Nations General Assembly First Committee, October 22, 2012, New York, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/statements/22Oct_Switzerland.pdf

⁸ 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

⁹ For the NWS statements, please see Conference on Disarmament: Statements 2013, Reaching Critical Will, March 5, 2013, www.reachingcriticalwill.org/disarmament-fora/cd/2013/statements

¹⁰ 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

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.

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

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

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

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

Warhead refurbishment/stewardship/life extension programs constitute a grey area in the assessment. On the one hand, such programs, along with being necessary for safety, are reflective of nuclear weapon states' decisions not to develop, produce and test new, qualitatively different nuclear warheads. At the same time, life extension programs can be interpreted as commitment to nuclear arsenals over the long-term. Furthermore, some states have recently produced new warheads and others are planning the development and production of replacement warheads in the future, without resorting to explosive testing but using computer simulations and hydrodynamic experiments. Another challenge is the modernization of delivery systems. While not producing new types of warheads, these projects ensure extended ranges of delivery vehicles, greater effectiveness and longer service life, which in turn projects the existence of, and reliance on, nuclear weapons for decades ahead.¹¹

China

China maintains the policy of minimal nuclear deterrence. China has for decades been considered to have the smallest nuclear arsenal among the five nuclear weapon states, with an estimated stockpile of about 240 warheads.¹² This may no longer be the case in light of announced reductions in the

¹¹ For a recent and comprehensive study of modernization efforts in nuclear weapon possessor states, please see Ray Acheson, ed., *Assuring Destruction Forever*, Reaching Critical Will, March 2012.

¹² “Chinese Nuclear Forces,” in *Armaments, Disarmament and International Security*, Part II: Military Spending and Armaments, 2010, SIPRI 2011 Yearbook, p. 340.

United Kingdom's nuclear arsenal. All information, however, is based on outside estimates, as China has never officially declared the size of its arsenal in terms of the number and type of warheads and delivery systems, deployed or non-deployed. It has not participated in any verifiable bilateral or multilateral reductions, and has not publicly announced any unilateral reductions of its nuclear arsenal.

According to US sources, China is developing new nuclear weapon delivery systems, including road-mobile ballistic missiles, submarine-launched ballistic missiles, and nuclear-capable cruise missiles.¹³ Some of these will likely replace older systems that will be phased out, but on balance, experts argue that China is the only NWS with a growing arsenal.¹⁴ A US Department of Defense 2012 report states that China is producing a new JIN-class strategic nuclear submarine (SSBN) and a new JL-2 submarine-launched ballistic missile (SLBM), which will give the Chinese navy "its first credible sea-based nuclear capability." It is estimated that the SLBM will reach "operating capability" by 2015.¹⁵ The PRC is also believed to be increasing the portion of warheads it assigns to long-range missiles and, according to US intelligence estimates, "by the mid-2020s, China could 'more than double' the number of warheads" on its long-range missiles.¹⁶ Without disclosure from China, it is difficult to either corroborate or dispute such assertions.

China maintains an official moratorium on nuclear testing since 1996, and does not appear to be developing or producing new nuclear warheads.¹⁷ 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, as of 2011, it was not producing material for nuclear weapons.¹⁸

China is the only nuclear weapon state that has an official no-first-use policy and provides unilateral assurances to non-nuclear weapon states against the use or threat of use of nuclear weapons.

France

France maintains its total arsenal at a maximum of 300 nuclear warheads, a cap announced in 2008 by President Nicholas Sarkozy. According to a working paper submitted by France to the 2010 NPT Review Conference, the arsenal is "fewer than 300," and France does not keep any nuclear warheads in reserve.¹⁹ After canceling the ground-based leg of its nuclear triad in 1996, France deploys nuclear weapons on submarines (a fleet of four) and aircraft.²⁰

¹³ "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>

¹⁴ Kristensen and Norris, "Chinese Nuclear Forces, 2011."

¹⁵ "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

¹⁶ *Ibid.*, p. 82

¹⁷ 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).

¹⁸ "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

¹⁹ "Nuclear disarmament: France's practical commitment," Working paper submitted by France to the 2010 NPT Review Conference, 14 April 2010, NPT/CONF.2010/WP.33.

²⁰ 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

France's current nuclear doctrine is outlined in the 2008 *Livre Blanc* on national defense and security, which describes nuclear deterrence (dissuasion) as the ultimate guarantee of national security and independence.²¹ 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.”²² France appears, therefore, to place nuclear weapons at the heart of its national security and does not rule out their use against non-nuclear weapon states. In early 2013, some reports suggested that, in light of budgetary constraints, France might need to reevaluate its policy of nuclear deterrence and different elements of its arsenal.²³ However, the very next day, in his annual greeting to the military, French President François Hollande reaffirmed the commitment to nuclear deterrent as a “protection against all threats” and a way for France to “play a strong role on the world stage.”²⁴

As part of its arsenal modernization, France is upgrading its nuclear-capable aircraft fleet. In 2011, it completed the deployment of modernized air-launched cruise missiles (ASMP/A), equipped with a new “robust” warhead, TNA.²⁵ “Le Terrible,” a new SSBN, entered service in September 2010. It deploys a new submarine-launched intercontinental ballistic missile “with a much-extended range” (M51), and France plans to equip its other three SSBNs with this missile by 2015. According to the French White Paper on Defense and National Security (*Livre Blanc*), in 2015, France will also begin the deployment of a modified version of this SLBM (M51.2), which will be mated with a new warhead, the TNO, currently under development (based on a “concept validated during the final series of nuclear tests in 1995 (sic”).²⁶

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.²⁷ Under the agreement, France is constructing at Valduc a radiographic and hydrodynamics facility called EPURE, which is expected to become operational in 2014.²⁸ The work on the UK side is also underway.

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.

²¹ In reference to its nuclear deterrence (dissuasion), the *Livre Blanc* states that, “Elle est la garantie ultime de la sécurité et de l’indépendance nationale...La dissuasion nucléaire est strictement défensive.” *Livre blanc du défense et sécurité nationale*, June 2008, p. 69-70.

²² Ibid., p. 64. 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.

²³ Pierre Tran, “French Cuts Spur Debate on Nuke Deterrence Budget,” *Defensenews.com*, January 8, 2013, www.defensenews.com/article/20130108/DEFREG01/301080002/French-Cuts-Spur-Debate-Nuke-Deterrence-Budget?odyssey=tab|topnews|text|FRONTPAGE

²⁴ Quoted in “France Affirms Nuclear Weapons Arsenal Despite Looming Military Cuts,” *Associated Press*, January 9, 2013.

²⁵ “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

²⁶ *Livre blanc du défense et sécurité nationale (The French White Paper on Defence and National Security)*, 2008, p. 162.

²⁷ Adrian Croft and Emmanuel Jarry, “France, UK agree to unprecedented military cooperation,” *Reuters*, November 1, 2010, www.reuters.com/article/2010/11/02/britain-france-idUSLAG00638720101102

²⁸ “L’avenir des forces nucléaires françaises.” See also CEA website, www-lmj.cea.fr/en/simulation-program/airix.htm

Since 2008, France has not announced any further reductions in its nuclear arsenal. It is not party to any bilateral or plurilateral nuclear arms reduction agreements. France does not produce fissile material for weapons purposes, having dismantled its Marcoule and Pierrelatte facilities by 2008.²⁹ France is a party to the CTBT and dismantled its nuclear testing center in the Pacific (Centre d'expérimentation du Pacifique) in 1998.

Russia

Russia is believed to possess the largest overall stockpile of nuclear warheads, though this has never been officially confirmed. Latest estimates from the *Bulletin of the Atomic Scientists* placed the size of Russia's arsenal, as of March 2012, at 2,430 strategic and about 2,000 non-strategic warheads, with an estimated total thus about 4,430 warheads, both deployed and in storage. There are also an estimated 5,500 warheads awaiting dismantlement.³⁰

Russia, together with the United States, is party to New START, which requires the two states to reduce, by 2018—i.e., seven years after the treaty's entry-into-force—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 800.³¹ As of September 2012, Russia deployed 491 strategic missiles and bombers, and 1,499 warheads.³² New START has extensive bilateral verification provisions, but is not subject to verification by any third party.

Russia's current military doctrine, released in February 2010, foresees a role for nuclear weapons in a potential large-scale or regional war. It stipulates that nuclear weapons might be used in response to a nuclear attack, an attack with other WMD, or "in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat."³³ This has raised somewhat the threshold for employing nuclear weapons compared to the 2000 doctrine, but Russia does not have a no-first-use policy and does not unconditionally pledge to not use nuclear weapons against non-nuclear weapon states.³⁴

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."³⁵ In February 2011, Russian First

²⁹ "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.

³⁰ Hans M. Kristensen and Robert S. Norris, "Nuclear Notebook: Russian Nuclear Forces, 2012," *Bulletin of the Atomic Scientists*. 68 (March/April 2012), p. 88.

³¹ New START text, www.state.gov/documents/organization/140035.pdf

³² "New START Treaty Aggregate Numbers of Strategic Offensive Arms," Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated November 30, 2012.

³³ Russian Federation Presidential edict, "The Military Doctrine of the Russian Federation," February 5, 2010.

³⁴ 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.

³⁵ Interfax News Agency, Russia and CIS Military Weekly, August 6, 2010, accessed through Lexis-Nexis.

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 2020.³⁶

Russia has been retiring some of its SS-18, SS-19, and SS-25 land-based missiles, replacing them with SS-27s (Topol-M).³⁷ In addition to the silo-based single-warhead (RS-12M2) and mobile single-warhead (RS-12M1) variations of SS-27, the newest modification, known as RS-24 Yars, is equipped with multiple independently-targeted re-entry vehicles (MIRV).³⁸ The deployment of RS-24 began in March 2010.³⁹ By May 2012, the new systems, Topol-M and Yars, constituted a third of the deployed land-based forces, and further deployments continued.⁴⁰

Russia is pursuing two more modernization projects for its land-based delivery systems, reportedly in response to the US ballistic missile defense work. First, in late 2011, Russian media reported that Russia was still planning to develop a new "heavy" liquid-fuel ICBM with "enhanced capability" to overcome ballistic missile defense.⁴¹ The target date for missile completion is 2018.⁴² The new liquid-fuel ICBM design was approved in October 2012, according to Russian media. It was further reported that production was set to begin before the end of 2012, and the new missile will eventually replace SS-18 ("Satan").⁴³ No subsequent updates have been found by the time of this writing. The second project is the development of a new solid-fuel ICBM. In May 2012, Russia successfully test launched a prototype of the new missile from a mobile launch platform and conducted several more tests until October 2012. Sources report that the new model is based on the Topol-M and Yars systems and will eventually replace them.⁴⁴ According to Russian media, the new ICBM might enter service in 2014.⁴⁵

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

³⁶ 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

³⁷ Kristensen and Norris, "Russian Nuclear Forces, 2011."

³⁸ Kristensen and Norris, "Russian Nuclear Forces, 2011."

³⁹ 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

⁴⁰ "Стратегические ракетные войска России обновились на треть" ("A Third of Russian Strategic Rocket Forces Renewed"), Lenta.ru, May 21, 2012, <http://lenta.ru/news/2012/05/21/yars/>

⁴¹ "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

⁴² Podvig, "Russia to Spend \$70 billion on Strategic Forces by 2020."

⁴³ The new missile is expected to weigh 100 tons and be capable of carrying a 10-ton payload. "Производство новейшей тяжелой МБР начнется до конца года - РВСН" ("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

⁴⁴ "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

⁴⁵ "Новейшую твердотопливную МБР могут принять на вооружение в 2014 году" ("The Newest Solid-Fuel ICBM May Be Accepted into Service in 2014"), RIA Novosti, November 21, 2012, http://ria.ru/defense_safety/20121121/911608353.html

manufacture of Bulava SLBMs through 2020.”⁴⁶ This new missile is supposed to be deployed on new Borey class strategic submarines, and was officially accepted for service (though not yet deployed) in January 2013.⁴⁷ Russia is planning to build up to eight Borey and Borey-A class SSBNs (three Borey, or Project 955, and five Borey-A, or Project 955A), each designed to be armed with 16 Bulava missiles.⁴⁸ The first Borey class submarine, “Yurii Dolgorukii,” officially entered service in January 2013, though it will not receive Bulava SLBMs until 2014.⁴⁹ The second Project 955 (Borey) submarine, “Alexander Nevsky,” was scheduled to begin state trials in December 2012, while the third boat, “Vladimir Monomakh,” left dock on December 30, 2012 and began sea trials in January 2013.⁵⁰ Construction of the first Project 955A submarine, “Knyaz Vladimir” (previously known as “Sviatitel Nikolai”), was officially inaugurated in July 2012, although, as noted by Pavel Podvig, “unofficial” construction started in 2010, and by mid-2012 “about half of the submarine hull...was completed.”⁵¹ At the ceremony, President Putin stated he was confident that the eight new Borey and Borey-A class submarines would be completed by 2020.⁵²

Russia has also completed the first stage of modernization and life extension of its older, Delta IV class submarines, which included “the installation of the new modification of the RSM-54 Sineva missile.”⁵³ The last of the six boats that underwent the first-stage upgrade, “Novomoskovsk,” returned to service in July 2012.⁵⁴ In the meantime, Russia has also started the second stage of upgrading Delta IV submarines, beginning with “Verkhoturye” SSBN, which returned to service after second-stage life extension in December 2012.⁵⁵ In March 2011, Russian media reported that Russia was “planning to develop its newest fifth-generation submarine by 2020.”⁵⁶ Finally, research and development is underway on a new strategic

⁴⁶ “Defense Ministry Signs Bulava Missile Contract,” RIA Novosti, January 24, 2012, http://en.rian.ru/military_news/20120124/170925888.html

⁴⁷ “Р-30 «Булава» - российская МБР морского базирования” (“R-30 ‘Bulava’ Is a Russian SLBM”), Novosti VPK, January 15, 2013, http://vpk.name/news/82443_r30_bulava_rossiiskaya_mbr_morskogo_bazirovaniya.html

⁴⁸ SIPRI 2011 Yearbook, p. 333. Note that Russia previously planned to arm the Project 955A submarines with 20 Bulava missiles each, but in February 2013, it was reported that all eight planned new SSBNs will carry 16 Bulavas each. See Podvig, “Project 955A Submarines to Carry 16 Missiles,” February 21, 2013, http://russianforces.org/blog/2013/02/project_955a_submarines_to_car.shtml.

⁴⁹ 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

⁵⁰ “Госиспытания АПЛ «Александр Невский» начнутся в декабре” (“State Trials of SSBN Alexander Nevsky to Start in December”), RG.ru, November 20, 2012, www.rg.ru/2012/11/20/reg-szfo/nevsky-anons.html; 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_i_spitaniyam.html

⁵¹ Pavel Podvig, “Construction of First Project 955A Submarine Formally Inaugurated,” Russian Strategic Nuclear Forces, July 30, 2012, http://russianforces.org/blog/2012/07/construction_of_first_project.shtml.

⁵² “Заложен АПК ‘Князь Владимир’” (“Construction of SSBN ‘Knyaz Vladimir’ Inaugurated”), July 31, 2012, <http://sevmash.ru/rus/news/1244---l-r.html>

⁵³ SIPRI 2011 Yearbook, p. 333.

⁵⁴ “ВМФ получила отремонтированную атомную подлодку Новомосковск” [“Russian Navy Received Refurbished Nuclear Submarine Novomoskovsk”], RIA Novosti, July 30, 2012, http://ria.ru/defense_safety/20120730/712714259.html

⁵⁵ “Центр судоремонта Звездочка передал флоту РПКСН Верхотурье” [“Ship Repair Center ‘Zvezdochka’ Transferred SSBN ‘Verkhoturye’ to the Navy”], star.ru, December 30, 2012, www.star.ru/index.php?page=979

⁵⁶ “Russian 5G Subs to Be Equipped with Ballistic, Cruise Missiles – Source,” RIA Novosti, March 19, 2011,

bomber, which reportedly is expected to be completed by 2025.⁵⁷

Russia reportedly tested a new warhead during the test launch of the SS-19 missile in late December 2011. This “hypersonic maneuverable warhead” was developed earlier and reportedly first tested in 2004.⁵⁸ The test did not involve a nuclear explosion. Russia is a party to the CTBT and has maintained a moratorium on explosive nuclear testing since 1990. Russia also maintains an official moratorium on the production of fissile material for weapons purposes and is engaged in material disposition programs through its agreements with the United States (see Action 16).

United Kingdom

The United Kingdom maintains the posture of “minimum nuclear deterrent,” and the October 2010 Strategic Defence and Security Review (SDSR) stipulates that the United Kingdom would consider using nuclear weapons only “in extreme circumstances of self-defence, including the defence of [North Atlantic Treaty Organization] NATO allies.”⁵⁹ 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.”⁶⁰ The UK also reserves the right to revise this position in the event of “future threat, development and proliferation” of chemical and biological weapons.⁶¹

Following the 2010 NPT Review Conference, the United Kingdom announced new reductions to its arsenal. According to the October 2010 SDSR, the United Kingdom will reduce its overall stockpile to “no more than 180” warheads, compared to no more than 225 announced in May 2010. They further committed to reduce the “requirement for operationally available warheads from fewer than 160 to no more than 120.” Reductions are supposed to take effect over “the next few years,” with the achievement of the stockpile ceiling of no more than 180 warheads expected “in mid-2020s.”⁶² In June 2011, the government informed Parliament that the 120-warheads target for deployed weapons was expected to be reached by the middle of this decade.⁶³ The United Kingdom also decided to further lower the operational status of its nuclear arsenal, announcing the intent to “reduce the number of operation launch tubes” on its submarines to eight (from 12), and the maximum number of warheads carried by each submarine from 48 to 40.⁶⁴

All of the UK nuclear weapons are sea-based, and its only delivery system is Trident II SLBM, deployed on Vanguard-class submarines. In 2007, the UK Parliament voted to maintain a nuclear deterrent and continue to deploy Trident, which necessitates procuring a replacement carrier. The United Kingdom has decided to extend the service life of Vanguard SSBN, as a replacement

en.rian.ru/military_news/20110319/163091053.html, quoted in Kristensen and Norris, “Russian Nuclear Forces, 2011.”

⁵⁷ Pavel Podvig, “Russia Begins R&D on a New Strategic Bomber,” December 28, 2011,

http://russianforces.org/blog/2011/12/russia_begins_rd_on_a_new_stra.shtml, and Kristensen and Norris, “Russian Nuclear Forces, 2011.”

⁵⁸ 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.

⁵⁹ “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,” October 2010, p. 37.

⁶⁰ *Ibid.*, p. 38.

⁶¹ *Ibid.*

⁶² *Ibid.*

⁶³ 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

⁶⁴ *Ibid.*

submarine is not expected to be ready in time to retire Vanguard in 2024.⁶⁵ The debate on continued reliance on Trident and production of a new SSBN to deploy it continues, affected in large part by budgetary considerations. The Liberal Democrats, the party holding 23 percent of seats in the Parliament, have requested to conduct a study on alternatives to replacing the Vanguard SSBNs. The study reportedly examines such options as producing three rather than four new submarines or switching from ballistic to cruise missiles and deploying them on Astute-class submarines.⁶⁶ Initially due by end of 2012, the study is now expected to be finished in the first half of 2013.⁶⁷

Another factor affecting the debate is the prospect of Scotland voting for independence in the referendum scheduled for 2014 and subsequently choosing not to host the UK nuclear submarines base at Clyde. In this regard, however, the UK coalition government has informed Parliament that it “has no plans to unilaterally disarm” nor does it “intend to conduct any review of the future of the UK deterrent.”⁶⁸

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 2016.⁶⁹ A decision on the replacement of the current warhead—which is expected to last for another decade or so—was also deferred until later. In May 2011, Defense Secretary Liam Fox announced that the design of a new generation SSBN, “together with £3 billion of initial contracts, had been agreed ahead of the final decision on replacing the existing fleet due in 2016.”⁷⁰ An additional £3 billion (total of £6 billion) is likely to be spent on the new submarines prior to the 2016 decision.⁷¹

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. In January 2013, it was reported that the project was 50 percent complete and expected to be finished in 2015.⁷² 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 agreement, is also ongoing and will reportedly be completed in 2014.⁷³

⁶⁵ Hans Kristensen and Robert Norris, “Nuclear Notebook: British nuclear forces, 2011,” *Bulletin of the Atomic Scientists*, Vol. 67, no. 5 (September 2011).

⁶⁶ “Dismissal of UK Minister Raises Fears Trident Renewal Study Will Be Forgotten,” *Global Security Newswire*, September 5, 2012, www.nti.org/gsn/article/dismissal-uk-minister-raises-fears-trident-renewal-study-will-be-undermined/#. For results of the 2010 elections and distribution of seats in the UK Parliament, please see BBC website: <http://news.bbc.co.uk/2/shared/election2010/results/>

⁶⁷ Nick Hopkins, “Trident: No Need for Like-for-Like Replacement, Says Danny Alexander,” *The Guardian*, January 22, 2013, www.guardian.co.uk/uk/2013/jan/22/trident-replacement-danny-alexander

⁶⁸ “The Referendum on Separation for Scotland: Terminating Trident – Days or Decades?: Government Response to the Committee’s Fourth Report of Session 2012-2013,” House of Commons, Scottish Affairs Committee, January 9, 2013, www.publications.parliament.uk/pa/cm201213/cmselect/cmsscota/861/861.pdf. The UK government appears to work on the assumption that Scotland will not choose independence or at least will not ask for the removal of the UK submarine base.

⁶⁹ *Ibid.*

⁷⁰ 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

⁷¹ “MOD Softens under Pressure on Trident,” Campaign for Nuclear Disarmament, December 9, 2011, www.cnduk.org/media/item/1305-mod-soften-under-pressure-on-trident

⁷² “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

⁷³ *Ibid.*

The United Kingdom has maintained an official moratorium on the production of fissile material for weapons purposes since 1995.⁷⁴ It has not conducted nuclear test explosions since 1991, and ratified the CTBT in 1998. The United Kingdom does not have its own nuclear test site.

United States

The United States has the world's largest and most advanced nuclear weapons arsenal. In May 2010, the United States, for the first time, revealed the total number of warheads in its active arsenal, i.e., deployed and non-deployed, strategic and non-strategic, as of September 30, 2009.⁷⁵ The number—5,113 warheads—did not include the thousands of retired warheads awaiting dismantlement. There are indications that the arsenal has decreased by about 500 since then, though no official update has been released. (See Action 3.)

The United States, together with Russia, is party to New START, which requires the two states to reduce, by 2018, their deployed warheads to no more than 1,550; deployed ICBMs, SLBMs and heavy bombers to no more than 700, and deployed and non-deployed launchers to no more than 800.⁷⁶ As of September 2012, the United States deployed 806 strategic missiles and bombers, and 1,722 warheads.⁷⁷ (See Action 4.)

Current US policy is guided by the so-called “Prague Agenda” outlined by President Obama in a major speech in April 2009.⁷⁸ The speech signaled a shift in US policy towards reducing the reliance on nuclear weapons. Although President Obama announced the commitment to “seek the peace and security of a world without nuclear weapons,” he also emphasized that while nuclear weapons exist, the United States would maintain a reliable, “safe and secure” arsenal.

Released a month before the 2010 NPT Review Conference, the US Nuclear Posture Review (NPR) indicated a reduced reliance on nuclear weapons and narrowed the scope for their potential use compared to the previous posture review. The NPR declared that the United States would not use or threaten to use nuclear weapons against NNWS party to the NPT “in compliance with their nuclear non-proliferation obligations.” The document did not, however, clarify the criteria for establishing compliance and also reserved the right for the United States to “make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and US capacities to counter that threat.”⁷⁹

In February 2011, the US Department of Defense released a new National Military Strategy, which commits to “reduce the role and numbers of nuclear weapons, while maintaining a safe, secure, and effective strategic deterrent.” It also describes the role of the nuclear arsenal to “continue to support strategic stability through maintenance of an assured second-strike capability...retain

⁷⁴ See UK statement at the 2010 NPT Review Conference and SIPRI 2011 Yearbook, Annex A.

⁷⁵ “Fact Sheet: Increasing Transparency in the U.S. Nuclear Weapons Stockpile,” US Department of Defense, May 3, 2010.

⁷⁶ New START text, www.state.gov/documents/organization/140035.pdf

⁷⁷ “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated November 30, 2012.

⁷⁸ “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

⁷⁹ US Nuclear Posture Review Report, US Department of Defense, April 2010.

sufficient nuclear force structure to hedge against unexpected geopolitical change, technological problems, and operational vulnerabilities.”⁸⁰

In January 2012, President Obama, with the Department of Defense, announced a new defense strategy entitled “Sustaining US Global Leadership: Priorities for 21st-Century Defense.” This strategy reaffirms the existing nuclear posture, but also notes that US deterrence goals might be achieved with a smaller nuclear force, “which would reduce the number of nuclear weapons in [the US] inventory as well as their role in US national security strategy.”⁸¹

In February 2012, US media reported that the Department of Defense, at the request of President Obama, was working on proposals for further cuts in the US nuclear arsenal. According to reports based on information from unnamed US officials, the three arsenal levels under consideration were 1,000-1,100; 700-800, and 300-400 “strategic, deployed nuclear weapons.”⁸² The internal review was reportedly completed in 2012, before the presidential elections, and its authors concluded that the US arsenal could be cut to 1,000-1,100 warheads, approximately 400-500 less than called for in New START. The classified draft policy guidance prepared on the basis of this review, however, does not necessarily prescribe rapid unilateral reductions.⁸³ The document has not yet been signed, and, contrary to some expectations, President Obama did not mention it in his State of the Union address in February 2013. It is not yet clear whether he will propose these cuts in the context of a new bilateral arrangement with Russia or pursue them unilaterally.

The 2010 Nuclear Posture Review indicated that the United States would maintain the nuclear triad of ICBMs, SLBMs, and heavy bombers.⁸⁴ 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.⁸⁵ However, in light of budget constraints, it is likely that not all of this money would indeed be appropriated and spent on modernization, as a specific budget for each year is subject to US Congress approval.

Still, the United States is modernizing its entire nuclear arsenal, with plans including the development of a new SSBN, ICBM, bomber, and cruise missile, along with life-extension programs for a number of warheads and refurbishment of existing delivery systems.⁸⁶ The United States is modernizing and extending the life of its Minuteman III land-based ICBM as well as Trident II (D5) SLBM, which, according to Andrew Lichterman, entails updating “virtually every component” of those missiles.⁸⁷ In December 2012, US government awarded a \$2 billion, five-year contract for

⁸⁰ *The National Military Strategy of the United States of America*, US Department of Defense, February 8, 2011, pp. 9, 21.

⁸¹ *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, US Department of Defense, January 3, 2012, p. 11.

⁸² The numbers refer to warheads, not delivery systems. Phil Stewart and David Alexander, “Pentagon Chief Grilled over Possible Nuclear Cuts,” Reuters, February 15, 2012, www.reuters.com/article/2012/02/15/usa-nuclear-pentagon-idUSL2E8DFJYR20120215

⁸³ R. Jeffrey Smith, “Obama Administration Embraces Major New Nuclear Weapons Cut,” The Center for Public Integrity, February 8, 2013, www.publicintegrity.org/2013/02/08/12156/obama-administration-embraces-major-new-nuclear-weapons-cut

⁸⁴ Nuclear Posture Review Report, US Department of Defense, April 2010.

⁸⁵ 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

⁸⁶ International Panel on Fissile Materials Report, 2011.

⁸⁷ Andrew Lichterman, “United States,” in *Assuring Destruction Forever: Nuclear Weapon Modernization around the World*, Ray Acheson, ed., Reaching Critical Will, March 2012, p. 93.

design work on the Ohio-class replacement SSBN.⁸⁸ The US Navy plans to procure 12 Ohio-replacement SSBNs, with the first to enter service in 2021.⁸⁹ In December 2012, the US Air Force announced its intent to award four contracts for studies in support of the Long-Range Standoff program, which envisions the development of a new long-range missile to replace the air-launched cruise missile currently deployed on strategic bombers.⁹⁰ The new missile would presumably carry a life-extended version of one of the existing warheads.⁹¹

As noted above, however, budget issues may become increasingly salient in consideration and decision making on the nuclear arsenal in the near future. 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.⁹² 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.⁹³

The United States has maintained an official moratorium on nuclear testing since 1992 but is 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.

⁸⁸ Christopher P. Cavas, “Submarine Design Effort Gets a \$2bn Boost,” *DefenseNews*, December 21, 2012, www.defensenews.com/article/20121221/DEFREG02/312210007/Submarine-Design-Effort-Gets-2B-Boost?odyssey=mod

⁸⁹ “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

⁹⁰ 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/

⁹¹ 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.

⁹² 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

⁹³ 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/

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."⁹⁴

France, having implemented some progressive measures in the past, still has a cautious approach to nuclear disarmament, also emphasizing that "appropriate conditions" must be in place. The official NPT page of the French government states that "it is vital to continue down the path of disarmament without limiting or stifling our discussion or our ambition" and that it is "important to avoid disassociating nuclear disarmament from collective security and the strategic context."⁹⁵ 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.⁹⁶

Russia's position on nuclear disarmament appears to have regressed in recent years, with its unwillingness to begin negotiations on a follow-on treaty to New START and insistence that the focus should be on implementing the current treaty. Similarly to France, 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 humanitarian dimension and delegitimization of nuclear weapons.⁹⁷ In early 2012, ahead of his return to the presidency, Vladimir Putin stated that Russia would never surrender its "strategic deterrent."⁹⁸

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 at different international fora.⁹⁹ At the same time, the UK government remains committed to maintaining its nuclear deterrent and replacing the submarines that carry the Trident. Speaking at the 2012 NPT Preparatory Committee meeting, a UK representative stated that "as long as large arsenals of nuclear

⁹⁴ "China's National Defense in 2010," Section X: Arms Control and Disarmament, March 31, 2011, www.china.org.cn/government/whitepaper/2011-03/31/content_22263885.htm

⁹⁵ "A Concrete and Comprehensive Support for Disarmament," France NPT website, www.francetnp2010.fr/spip.php?article77

⁹⁶ 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

⁹⁷ 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

⁹⁸ 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/>

⁹⁹ SDSR 2010, paragraph 3.5. Also, see Statement by Ambassador Michael Tatham of the UK Mission to the UN at the General Assembly High-Level Meeting on Disarmament, July 27, 2011, <http://ukun.fco.gov.uk/en/news/?view=News&id=636316882>

weapons remain and the risk of nuclear proliferation continues ... only a credible nuclear capability can provide the necessary ultimate guarantee to our national security.”¹⁰⁰

As mentioned earlier, 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.”¹⁰¹ 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 at international fora, US representatives place activities such as conclusion and implementation of New START and transparency in arsenals in the context of steps towards nuclear disarmament.¹⁰² In his State of the Union address in February 2013, President Obama said the United States would continue to pursue bilateral reductions with Russia but did not mention global nuclear disarmament.¹⁰³

None of the five NWS supported the establishment of the open-ended working group (OEWG) on taking forward multilateral nuclear disarmament pursuant to the resolution adopted by the UN General Assembly in 2012. (See Action 6.)

It is worth noting that the final Communiqué adopted by leaders of 53 states at the Nuclear Security Summit in Seoul in March 2012 reaffirmed the “shared goals of nuclear disarmament, nuclear nonproliferation and peaceful uses of nuclear energy.” However, the document did not contain a reference to “concrete steps toward a world without nuclear weapons” —language that reportedly was present in an earlier version of draft communiqué.¹⁰⁴

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

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

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

¹⁰⁰ 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

¹⁰¹ “Remarks by President Barack Obama In Prague as Delivered.”

¹⁰² See, for example, the statement by Rose Gottemoeller, Acting Under Secretary of State, at the Conference on Disarmament, January 24, 2012.

¹⁰³ “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

¹⁰⁴ “World Leaders Pledge Strong Action against Nuke Terrorism,” AFP, March 27, 2012, www.focus-fen.net/?id=n274276

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

China

No observable progress

The Chinese government does not release information on its nuclear arsenal, and it is therefore impossible to assess if China has conducted any warhead dismantlement and material disposition during the reporting period.¹⁰⁵

Its facilities for producing fissile material for nuclear weapons are reported to have been decommissioned or to have shifted to producing material for the civilian nuclear industry.¹⁰⁶ A 2011 report from the International Panel on Fissile Materials (IPFM) lists three operational uranium enrichment facilities in China, all of them designated as civilian. See Action 18.

France

Warhead dismantlement and material disposition—no observable progress

Facility dismantlement—completed prior to 2010

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

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

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

Russia

Limited progress

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

Russia is dismantling its retired warheads, but has not officially disclosed information on the rate of dismantlement during the reporting period or future plans in this regard. In their definitive accountings of global stockpiles, analysts Hans Kristensen and Robert Norris estimate that, as of 2012, there were a total of 5,500 retired warheads in Russia awaiting dismantlement, 2,000-3,000 of which were non-strategic.¹⁰⁷ Independent estimates also suggest that the “net dismantlement rate in

¹⁰⁵ The only official information related to weapons production that CNS could locate concerns the decommissioning of China’s first nuclear weapon production bas, 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/environet/meetings/TM_Guide_Stakeholder_Involvement/China.pdf

¹⁰⁶ “Global Fissile Material Report 2010,” International Panel on Fissile Materials.

¹⁰⁷ Kristensen and Norris, “Russian Nuclear Forces, 2012,” p. 90. Estimate as of March 2012.

Russia is on the order of 200–300 warheads a year, with another 200 warheads being dismantled but then replaced with remanufactured warheads.”¹⁰⁸

“Megatons to Megawatts,” the disposition program under which highly enriched uranium (HEU) taken out of Russian nuclear weapons is converted to low-enriched uranium (LEU) and sold to the United States, entered its last year in 2013. According to United States Enrichment Corporation—the executive agent for the US government implementing Megatons to Megawatts—by early 2013, 472.5 metric tons of HEU have been converted since 1993.¹⁰⁹ The material converted during the current reporting period (early 2012–early 2013) is about 33 tons. When completed, the program will have converted a total of 500 metric tons HEU.

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

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

United Kingdom

Limited progress

The United Kingdom has decided to reduce its overall arsenal to no more than 180 warheads by mid-2020s,¹¹⁰ but so far has not made any official announcements on dismantlement of the retired warheads.

HEU declared in excess of military needs is reportedly being utilized for nuclear submarine fuel, but again, 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.¹¹¹

A gaseous diffusion plant at Capenhurst that previously produced HEU for weapons was shut down in 1982 and subsequently decommissioned and demolished.¹¹² All of the facilities that produced plutonium for the UK nuclear weapons program have been shut down. See Action 18.

United States

Progress

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

Warhead dismantlement is ongoing, however, although the United States has not released the number

¹⁰⁸ “Global Fissile Material Report 2011,” International Panel on Fissile Materials, p. 5.

¹⁰⁹ See “Megatons to Megawatts, Program Status,” www.usec.com/russian-contracts/megatons-megawatts. The exact date of the update is not listed.

¹¹⁰ Ibid.

¹¹¹ “Plutonium Strategy: Current Position Paper,” Nuclear Decommissioning Authority, February 2011, www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf

¹¹² 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.

of warheads dismantled since 2009. (In its fact sheet released in 2010, the United States declared that it had dismantled 8,748 warheads between 1994 and 2009.) The National Nuclear Security Administration (NNSA) Strategic Plan released in May 2011 included the commitment to complete the dismantlement of B53 bombs by 2012, and of all warheads retired prior to 2009 by 2022.¹¹³

In August 2010, US Secretary of Energy Steven Chu announced the complete dismantlement of all W62 warheads, retired from service in March 2010.¹¹⁴ 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.¹¹⁵ The NNSA also noted that dismantlement was completed “years ahead of schedule” due to the use of new, more efficient and safe technology.¹¹⁶ 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 2012.¹¹⁷ Still, experts note that the current rate of dismantlement is significantly lower than the level achieved in the 1990s.¹¹⁸ See Action 18 for dismantlement of facilities.

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

China

No

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

France

No

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

Russia

Yes (partially)

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

United Kingdom

No

¹¹³ *The National Nuclear Security Administration Strategic Plan*, National Nuclear Security Administration, May 2011, p 8.

¹¹⁴ “W62 Dismantlement Factsheet,” National Nuclear Security Administration, August 12, 2010, <http://nnsa.energy.gov/mediaroom/factsheets/w62dismantlement>

¹¹⁵ “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>.

¹¹⁶ “NNSA, Y-12 Complete Dismantlement of W70 Components,” National Nuclear Security Administration, 21 October 2011, <http://nnsa.energy.gov/mediaroom/pressreleases/w70dismantle102111>.

¹¹⁷ “NNSA Exceeds 2012 Goal for Nuclear Weapons Dismantlement,” NNSA press release, December 3, 2012.

¹¹⁸ “Global Fissile Material Report 2011,” p. 5.

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

The United Kingdom is also cooperating with the United States on developing disarmament verification technology, but this work is publicized much less than the UK-Norway initiative.¹¹⁹

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.¹²⁰ The two countries concluded a warhead dismantlement verification exercise in early 2012.¹²¹ (See Action 19.)

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

China

No

China does not officially disclose information on its arsenal.

France

No change

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

Russia

No progress

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

Through the data exchange under New START, Russia declares to the United States the number of its deployed missiles and bombers, as well as the total number of deployed and non-deployed launchers. Russia does not post this information in the public domain, however, and all the updates are currently available from the US State Department. It is expected that information on New START implementation will continue to be made public (at least by the United States) for the

¹¹⁹ “Fact Sheet: Nuclear Verification,” Office of Nonproliferation and International Security, NNSA, September 2011. Practically no information on this work is available from open sources.

¹²⁰ Ibid.

¹²¹ 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.

duration of New START, until February 2021. However, a delay in the release of information on the basis of first data exchange has led experts to question the level of transparency provided under the New START.¹²²

United Kingdom

Limited progress

The United Kingdom announced its target reductions of both the overall and deployed warheads in the October 2010 Strategic Defence and Security Review. It has also declared the decision to reduce the maximum number of warheads carried on each of its submarines. Since that announcement, the only additional information provided was in response to a query from the House of Commons, where Defence Secretary Liam Fox stated in June 2011 that, “at least one of the Vanguard class 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.”¹²³

United States

Limited progress

Since May 2010, the United States has not officially released an update on its overall nuclear stockpile. However, as part of data exchange under New START, the United States makes public the reductions in the aggregate number of its deployed missiles and heavy bombers, and deployed and non-deployed launchers. On November 30, 2012, the US State Department also published a more detailed breakdown of US deployed and non-deployed ballistic missiles, launchers, and heavy bombers.¹²⁴ As mentioned above, a delay in the release of aggregate numbers gave rise to questions about the level of transparency under the treaty.¹²⁵

The NNSA has released several nuclear weapons dismantlement updates, though it has not specified the numbers of dismantled warheads and bombs. (See Action 2.)

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

¹²² See Hans Kristensen, “New START Data Exchange: Will It Increase or Decrease International Nuclear Transparency?” FAS Strategic Security Blog, March 22, 2011, www.fas.org/blog/ssp/2011/03/startexchange.php.

¹²³ Written Ministerial Statements, Defence, Nuclear Deterrent, June 29, 2011: Column 51WS, www.publications.parliament.uk/pa/cm201011/cmhansrd/cm110629/wmstext/110629m0001.htm

¹²⁴ “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Bureau of Arms Control, Verification, and Compliance, US Department of State, November 30, 2012, www.state.gov/t/avc/rls/201216.htm

¹²⁵ Kristensen, “New START Data Exchange: Will It Increase or Decrease International Nuclear Transparency?”

France: No

Russia: Yes, see Action 4

United Kingdom: Yes

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

United States: Yes

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

Since 2010, the United States has not officially released updated information on the size of its stockpile, but sources report that it had “reduced its nuclear weapons stockpile by nearly 500 warheads since 2009.”¹²⁶ Kristensen wrote in February 2013 that, according to the information provided by the NNSA, the US arsenal as of early 2013 was an approximate 85 percent reduction compared to the arsenal in 1967, which would place it at about 4,688 warheads, deployed and non-deployed. According to Kristensen, the reductions include the “retirement of warheads for the last non-strategic naval nuclear weapon, the nuclear Tomahawk land-attack cruise missile (TLAM/N).”¹²⁷

Indicator 3.2. Warheads are dismantled during the reporting period

China: No information

France: No information

Russia: No information

United Kingdom: No information

United States: Yes

As noted above, the United States continues the dismantlement of warheads retired from its arsenal. In 2010-2011, the NNSA announced the completion of dismantlement of two classes of warheads (W62 and W70) and one type of bomb (B53). In December 2012, NNSA also made public that it had dismantled “a number of B61 and B83-0/1 bombs and W76-0, W80-0, W84 and W78” since October 2011 and exceeded its annual dismantlement goal by 12 percent.¹²⁸

¹²⁶ Hans Kristensen, “(Still) Secret US Nuclear Stockpile Reduced,” FAS Strategic Security Blog, February 26, 2012, www.fas.org/blog/ssp/2013/02/stockpilereduction.php

¹²⁷ Ibid.

¹²⁸ “NNSA Exceeds 2012 Goal for Nuclear Weapons Dismantlement,” NNSA press release, December 3, 2012.

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, but he only mentioned the intent to pursue further bilateral reductions with Russia. He is still expected to call for nuclear weapons reductions on the basis of classified internal review concluded in 2012, which suggests that the US arsenal can be cut by a third.¹²⁹ (See Action 1.)

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

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

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

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

Completed

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

Russian Federation ratified the treaty on January 25, 2011.

New START entered into force on February 6, 2011.¹³⁰

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

Yes

¹²⁹ R. Jeffrey Smith, "Obama Administrator Embraces Major New Nuclear Weapons Cut," The Center for Public Integrity, February 8, 2013, www.publicintegrity.org/2013/02/08/12156/obama-administration-embraces-major-new-nuclear-weapons-cut; Joseph Cirincione, "Obama's Nuclear Future," *Foreign Affairs*, March 6, 2013, www.foreignaffairs.com/articles/139037/joseph-cirincione/obamas-nuclear-future?page=show

¹³⁰ 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/>

The two states have successfully started implementation of the new treaty. As of February 2013, Russia and the United States conducted four exchanges of data on the aggregate number of strategic arms subject to the treaty (one since the last monitoring report). The figures from data exchanges were made publicly available online by the US State Department. Under the terms of the treaty, data exchange takes place twice a year.

The Bilateral Consultative Commission (BCC), established under New START, met twice during the reporting period: on September 11-21, 2012 and on February 16-19, 2013. Overall, the Commission met five times since the treaty's entry-into-force.¹³¹ The BCC discusses practical aspects of treaty implementation and has the authority to make limited technical changes in treaty implementation without altering substantive provisions.¹³² Since February 2012, the Bilateral Consultative Commission concluded three new agreements, including an agreement to "exchange, in 2013, telemetric information on one launch of an ICBM or SLBM conducted by each Party" during 2012.¹³³

The two countries started mutual inspections on April 13, 2011, and each side is allowed to conduct up to 18 on-site inspections each treaty year. In the treaty's second year (February 2012-February 2013), the United States and Russia each conducted 17 inspections, and since the start of treaty year three, Russia has conducted one inspection.¹³⁴ The United States and Russia have also exchanged "over 1,800 notifications" (including quantities, locations, and operational specifications of armaments).¹³⁵

Information on the aggregate numbers of strategic weapons released by the two sides indicate that, between March 2012 and September 2012, the United States reduced the number of deployed missiles and bombers by six (from 812 to 806). The number of deployed warheads associated with strategic delivery systems, according to New START counting rules, decreased by 15 (from 1737 to 1722). During the same period, the net decrease in Russia's deployed missiles and bombers was three (from 494 to 491), but the number of deployed warheads, according to the counting rules, increased by seven (from 1492 to 1499). Russia's total numbers of deployed strategic missiles and bombers remain below New START limits. The increase in the total number of deployed warheads counted under New START is likely due to the deployment of more MIRVed RS-24 missiles and withdrawal of older single-warhead systems.

¹³¹ Previous meetings took place on March 28-April 8, 2011, October 19-November 2, 2011, and January 24-February 7, 2012.

¹³² See "Bilateral Consultative Commission (BCC)," Bureau of Arms Control, Verification and Compliance, US Department of State, www.state.gov/t/avc/rls/145830.htm

¹³³ "Bilateral Consultative Commission: Decision on Number of Launches of ICBMs and SLBMs Conducted in 2012, on Which an Exchange of Telemetric Information Will Be Carried Out in 2013," Bureau of Arms Control, Verification and Compliance, US Department of State, February 19, 2013, www.state.gov/t/avc/rls/204959.htm. For the full list of agreements, see www.state.gov/t/avc/newstart/c39903.htm.

¹³⁴ "New START Treaty Inspection Activities," Bureau of Arms Control, Verification and Compliance, US Department of State, Updated January 17, 2013 and February 11, 2013, www.state.gov/t/avc/newstart/c52405.htm

¹³⁵ "Russia, U.S. Each Complete 18 New START Audits," NTI website, www.nti.org/gsn/article/russia-us-each-complete-18-new-start-audits/

Aggregate numbers of strategic offensive arms, on the basis of data exchanges:¹³⁶

		As of 5 Feb 2011		As of 1 Sept 2011		As of 1 March 2012		As of 1 Sept 2012	
Category of Data	Treaty Limits	US	Russia	US	Russia	US	Russia	US	Russia
Deployed Missiles and Bombers	700	882	521	822	516	812	494	806	491
Deployed Warheads	1,550	1,800	1,537	1,790	1,566	1,737	1,492	1,722	1,499
Deployed and non-deployed launchers	800	1,124	865	1,043	871	1,040	881	1,034	884

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 visible 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.”¹³⁷ 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). However, Russia has indicated that it is still too early to discuss tactical nuclear weapons.¹³⁸ Russian officials have been stating that their focus is on implementing New START rather than planning next steps.¹³⁹ Russia is also concerned about US ballistic missile defense plans, which has become a serious obstacle to further bilateral arms control talks. Then-president Dmitri Medvedev even threatened to withdraw from New START if the United States proceeds with the deployment of missile defense in Europe.¹⁴⁰ Russia has further requested legally-binding assurances that the interceptors, to be deployed in Poland and Romania in 2018 and 2021, would not target

¹³⁶ “New START Treaty Aggregate Numbers of Strategic Offensive Arms,” Fact Sheet, Bureau of Arms Control, Verification and Compliance, U.S. Department of State, updated November 30, 2012; April 6, 2012; December 1, 2011, and June 1, 2011.

¹³⁷ 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

¹³⁸ “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>

¹³⁹ 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.

¹⁴⁰ “Russian-U.S. Arms Control Group Meets,” Global Security Newswire, December 15, 2011, www.nti.org/gsn/article/us-russia-hold-nuclear-disarmament-nonproliferation-talks/

Russian ICBMs.¹⁴¹ The United States says it is not in a position to give such assurances, and the two sides have so far been unable to resolve their differences.

On December 27, 2011, acting US Under Secretary of State Rose Gottemoeller told RIA Novosti that the United States was preparing for talks on non-strategic nuclear weapons, but described discussion as in the “homework period,” noting that “we are not yet ready to embark on new negotiations.”¹⁴² In February 2013, addressing the Nuclear Deterrence Summit in Virginia, Gottemoeller again stated that processes to begin negotiations on further cuts to both strategic and tactical nuclear arms “are under way.”¹⁴³

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

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

The five NWS met in Washington, DC, in June 2012 to continue their consultations, following up on the meeting in Paris in June 2011 and the 2009 London Conference on Transparency and Confidence Building Measures. The consultations are confidential but, for the first time, a public event was held ahead of the Washington, DC, meeting where NWS representatives laid out their countries’ views on priorities in the NPT and answered questions from the audience. While the speakers mostly expressed satisfaction with the status of Article VI implementation, the comments

¹⁴¹ 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

¹⁴² “U.S. preparing for tactical nuclear cuts in future arms deal with Russia,” RIA Novosti, December 27, 2011, http://en.rian.ru/military_news/20111227/170513651.html

¹⁴³ Diane Barnes, “U.S. Voices Optimism on Russian Threat Reduction Talks,” *Global Security Newswire*, February 21, 2013, www.nti.org/gsn/article/gottemoeller-deterrence-summit/

did not center on nuclear disarmament but rather covered the three “pillars” of the NPT. Some representatives particularly emphasized the importance of compliance with nonproliferation obligations.¹⁴⁴ The joint statement released after the closed consultations also indicated that the NWS discussions included issues related to nonproliferation and peaceful uses, along with disarmament.

The NWS “reaffirmed their commitment to the shared goal of nuclear disarmament and emphasized the importance of working together in implementing the 2010 NPT Review Conference Action Plan.”¹⁴⁵ The disarmament part of consultations focused on transparency and verification, continuing from the discussions held in Paris in 2011. The P5 also discussed proposals for a standard reporting form, as mandated by Action 21, but have not yet adopted any.

In their joint statements, as well as individually, the five NWS have been highlighting elements of a step-by-step approach to disarmament. They have reaffirmed commitment to promote the entry-into-force of the CTBT, and to uphold their respective moratoria on nuclear test explosions,¹⁴⁶ and reiterated their support for commencement of the negotiations on a fissile material cut-off treaty at the CD.

In addition to the annual conferences, the P5 reportedly have also started to hold consultations in the inter-sessional period “among policy and expert levels.”¹⁴⁷ The next annual meeting will take place in April 2013 in Geneva, hosted by the Russian Federation.

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

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

No visible progress

While the five NWS continue their consultations, they are far from developing any joint action on “rapidly moving towards an overall reduction in the global stockpile.” To the extent that the NWS consultations have so far addressed nuclear weapons reductions, they seem to be focused on the experience of past and present US-Russian agreements, and questions of strategic stability. Disagreements persist over the necessary levels of transparency and next steps towards nuclear disarmament. The five NWS are yet to agree on a standard form for reporting on steps taken to implement the 2010 Action Plan and Article VI of the NPT, though reportedly work is being done in that respect. An important positive development is the discussion among the NWS of verification of arms reductions and warhead dismantlement.

¹⁴⁴ See Gaukhar Mukhatzhanova, “Nuclear-Weapon States Meeting in Washington Hold a Public Event—But Questions Remain Unanswered,” *INENS Insights*, Issue 2, Fall 2012, <http://inens.org/images/pdfs/insights2.pdf>

¹⁴⁵ “Third P5 Conference: Implementing the NPT,” Joint statement by China, France, Great Britain, Russia, and the United States, June 29, 2012, www.state.gov/r/pa/prs/ps/2012/06/194292.htm

¹⁴⁶ “First P5 Follow-up Meeting to the NPT Review Conference (Paris, June 30th-July 1st, 2011),” www.franceonu.org/spip.php?article5660

¹⁴⁷ “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

(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 (a.k.a., P5) 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.¹⁴⁸ Please see Action 4 for discussion.

The United States continues to deploy non-strategic nuclear weapons in Europe as part of its NATO commitments. Russia maintains a large arsenal of non-strategic nuclear weapons, although recent estimates by Igor Sutyagin suggest that the number of Russian NSNW ready for deployment is considerably lower than previously believed and stands at about 1,000 warheads.¹⁴⁹

In its 2010 Nuclear Posture Review, the US stated that it would “retain the capability to forward-deploy non-strategic nuclear weapons in support of its Alliance commitments.”¹⁵⁰ The first NATO summit following the 2010 RevCon took place in November 2010 in Lisbon, Portugal. The new Strategic Concept adopted at the summit somewhat reduced the emphasis on US non-strategic nuclear weapons stationed in Europe, compared to the 1999 Strategic Concept.¹⁵¹ Unlike the 1999 version, the 2010 Concept also explicitly mentions the prospect of further reductions of these weapons in the future.¹⁵² 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.”¹⁵³ Views on the withdrawal of US weapons differ among European members of NATO, with states such as Belgium, Germany, Finland, Norway, and others supporting the removal of non-strategic nuclear weapons from

¹⁴⁸ For a summary, see Amy F. Woolf, “Nonstrategic Nuclear Weapons, CRS Report RL32572, February 2, 2011, www.fas.org/sgp/crs/nuke/RL32572.pdf

¹⁴⁹ 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

¹⁵⁰ Nuclear Posture Review Report, U.S. Department of Defense, April 2010.

¹⁵¹ “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>

¹⁵² “Active Engagement, Modern Defence,” Paragraph 26.

¹⁵³ Ibid.

Europe.¹⁵⁴ Some US officials have noted that, while the United States is open to the withdrawal of tactical nuclear weapons from Europe, some of the European allies are in fact adamantly opposed, even if they do not express such opposition in public, outside of intra-NATO consultations.¹⁵⁵

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.¹⁵⁶ NATO members subsequently met in September 2012 to discuss nuclear policies and engagement with Russia, but it appears that internal differences on tactical nuclear weapons have not been resolved.¹⁵⁷ Nor did the meeting of NATO's Nuclear Planning Group in October 2012 result in any new decisions.

(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."¹⁵⁸

France

No change during the reporting period

France did not release any new doctrinal documents since 2008, although a new defense white paper is expected to be issued sometime in 2013.

Russia

No change

No new nuclear posture documents were released by Russia between May 2010 and March 2013, indicating that its nuclear posture remained the same as outlined in the February 2010 military doctrine, which foresees a role for nuclear weapons in a potential large-scale or regional war. It stipulates that nuclear weapons might be used in response to a nuclear attack, an attack with other WMD, or "in the event of aggression against the Russian Federation involving the use of conventional weapons when the very existence of the state is under threat."¹⁵⁹ This has raised

¹⁵⁴ 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.

¹⁵⁵ Remarks made under the Chatham House rules, fall 2011.

¹⁵⁶ Deterrence and Defence Posture Review, NATO, May 20, 2012

¹⁵⁷ 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

¹⁵⁸ China's National Defense in 2010, White Paper, www.china.org.cn/government/whitepaper/node_7114675.htm

¹⁵⁹ Russian Federation Presidential edict, "The Military Doctrine of the Russian Federation," February 5, 2010.

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.¹⁶⁰

In February 2012, ahead of the presidential elections, 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.”¹⁶¹ While Russia continues the modernization of its nuclear forces, no new doctrinal documents indicating an increased (or diminished, for that matter) role of nuclear weapons have been released since Putin’s return to presidency.

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.”¹⁶²

United States

Limited progress

In January 2012, President Obama and the Department of Defense announced a new defense strategy entitled “Sustaining US Global Leadership: Priorities for 21st-Century Defense.” While the strategy reaffirmed the previous doctrine that “as long as nuclear weapons remain in existence, the United States will maintain a safe, secure, and effective arsenal,” it also suggested that the United States might implement new reductions in the arsenal. “It is possible that our deterrence goals can be achieved with a smaller nuclear force, which would reduce the number of nuclear weapons in our inventory as well as their role in U.S. national security strategy.”¹⁶³

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.”¹⁶⁴ At the same time, the document emphasizes that NATO has “dramatically reduced [...] our reliance on nuclear weapons in NATO strategy.” It is not clear how the latter statement is compatible with the nuclear deterrence being the “supreme guarantee” and a “core element” of NATO strategy. The Alliance’s endorsement of a vision of a nuclear weapon-free world appears less than solid, as the Security Concept “commits

¹⁶⁰ 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.

¹⁶¹ 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/>

¹⁶² “Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review,” October 2010, p. 37.

¹⁶³ “Sustaining U.S. Global Leadership: Priorities for 21st Century Defense,” U.S. Department of Defense, January 3, 2012, p. 11.

¹⁶⁴ “Active Engagement, Modern Defence,” North Atlantic Treaty Organization, November 19, 2010, www.nato.int/cps/en/natolive/official_texts_68580.htm

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.”¹⁶⁵

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.”¹⁶⁶ As noted above, the May 2012 DDPR did not alter the role assigned to nuclear weapons in the Alliance’s doctrine. DDPR reiterated that, “nuclear weapons are a core component of NATO’s overall capabilities for deterrence and defense.”¹⁶⁷ 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.

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

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

The United States has led the effort to convene a “contact group” of NWS, with a possible inclusion of other weapons possessors, on launching the FMCT negotiations.¹⁶⁸ These “P5 plus” consultations have been taking place on the margins of the CD and the UNGA First Committee meetings since August 2011.¹⁶⁹ The content of these discussions is not disclosed, but the group evidently has not been able to come up with solutions for the current deadlock at the CD.

In November 2011, the United Kingdom and Preparatory Commission for the Comprehensive Nuclear-Test-Ban Organization (CTBTO) organized a meeting in Edinburgh focused on enhancing the detection of underground nuclear testing, inviting experts from the five NWS.¹⁷⁰ Speaking ahead of the meeting, UK Minister of Counter-Proliferation Alistair Burt stated that the experts would “discuss technical methods of carrying out inspections to determine whether a nuclear weapon test

¹⁶⁵ Ibid., and “NATO’s Nuclear Forces,” North Atlantic Treaty Organization, updated 14 October 2011, www.nato.int/cps/en/natolive/topics_50068.htm?

¹⁶⁶ “Lisbon Summit Declaration,” North Atlantic Treaty Organization, 20 November 20, 2010, www.nato.int/cps/en/natolive/official_texts_68828.htm

¹⁶⁷ Deterrence and Defence Posture Review, NATO Press Release, May 20, 2012, www.nato.int/cps/en/natolive/official_texts_87597.htm?mode=pressrelease

¹⁶⁸ A senior State Department official, remarks under Chatham House rules.

¹⁶⁹ Conversations with diplomats familiar with the process, fall 2011.

¹⁷⁰ “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

explosion has taken place in violation of the 'Treaty.'" He further noted that such technical exchanges "contribute to our wider cooperation on nuclear disarmament and non-proliferation, and are critical to building confidence and trust."¹⁷¹

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

(f) Reduce the risk of accidental use of nuclear weapons;

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

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

No action

The Joint P5 statements released after the consultations in June 2011 and June 2012 did not mention any discussions of operational status, de-alerting, and de-mating taking place within the framework of NWS consultations. US-Russian consultations may have touched on the subject of reducing alert levels, but there is no mention of that in open sources during the reporting period.

There have been no reported changes in alert postures of four NWS during the reporting period, while Russia announced plans to resume continuous at-sea patrols. It is not clear if the decision has been implemented yet.

As in previous years, at the UN General Assembly First Committee in November 2012, France, Russia, the United Kingdom, and the United States voted against the resolution "Decreasing Operational Readiness of Nuclear Weapons Systems," which called for further practical steps towards removing all nuclear weapons from high alert status.¹⁷² In explaining their vote, France, the United Kingdom, and the United States argued that the operational readiness has been decreased sufficiently and current alert levels do not increase the risk of accidental use of nuclear weapons.¹⁷³

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.

¹⁷¹ Ibid.

¹⁷² "Decreasing Operational Readiness of Nuclear Weapons Systems," Draft Resolution tables by Chile, Malaysia, New Zealand, and Switzerland, A/C.1/67/L.28, October 23, 2012, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L28.pdf

¹⁷³ Ambassador Joanne Adamson, Explanation of Vote on behalf of France, the United Kingdom, and the United States, UNGA First Committee, November 5, 2012, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L28_France-UK-US.pdf

Existing policies

China's doctrine stipulates that, "in peacetime the nuclear missile weapons of the Second Artillery Force are not aimed at any country."¹⁷⁴ 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."¹⁷⁵

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.¹⁷⁶ 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.¹⁷⁷

At the same time, alert levels remain high, particularly in the United States and Russia. Russia's-deployed ICBMs are maintained at launch-on-warning, meaning that they are ready to launch if it appears that another state has initiated a nuclear strike against Russia. A recent study by the UN Institute for Disarmament Research (UNIDIR) suggests that Russia's readiness levels are uneven across different types of ICBMs, with a significantly higher portion of silo-based ICBMs being on high alert compared to road-mobile missiles.¹⁷⁸ 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.¹⁷⁹ In early 2012, Admiral Vladimir Vysotsky announced plans to resume continuous patrols by Russia's SSBNs in June 2012, but there has been no subsequent reporting on this. According to the UNIDIR report's authors, the return to constant patrol "might increase the number of Russian SLBM warheads on alert."¹⁸⁰ 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."¹⁸¹ 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."¹⁸² 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

¹⁷⁴ "China's National Defense in 2008," Defense White Paper, January 2009, http://news.xinhuanet.com/english/2009-01/20/content_10688124.htm

¹⁷⁵ 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

¹⁷⁶ 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>

¹⁷⁷ 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.

¹⁷⁸ Hans M. Kristensen and Matthew McKinzie, *Reducing Alert Rates of Nuclear Weapons*, UNIDIR: New York and Geneva, 2012, UNIDIR/2012/6, pp. 5-6.

¹⁷⁹ Kristensen and Norris, "Russian Nuclear Forces, 2011," p. 71.

¹⁸⁰ Kristensen and McKinzie, *Reducing Alert Rates of Nuclear Weapons*, p. 7.

¹⁸¹ Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. x.

¹⁸² Kristensen and McKenzie, *Reducing Alert Rates of Nuclear Weapons*, p. 1.

2008 that he would “work with Russia” to take ballistic missiles off of “hair-trigger alert.”¹⁸³ 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.¹⁸⁴ The Trident Alternatives Review, due in June 2013, is reportedly considering, among other things, whether the United Kingdom should maintain the constant at-sea deterrent.¹⁸⁵ 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.”¹⁸⁶ Its *Livre Blanc*, however, does not specify alert levels/posture.

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

No

There were no specific announcements of such discussions having taken place at the P5 meetings.

(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

At the meeting in Paris in 2011, the NWS discussed issues of transparency and mutual confidence, including nuclear doctrine and capabilities, as well as verification.¹⁸⁷ According to the subsequent NWS statement, technical challenges associated with verification were given particular attention, and bilateral and multilateral experiences were shared among the NWS.¹⁸⁸ These discussions continued at the meeting in Washington in 2012.

Upon the invitation of the United Kingdom, on April 4, 2012, the NWS held a confidential expert-level meeting on lessons learned from the UK-Norway Initiative.¹⁸⁹ It was the first meeting of all NWS focused specifically on disarmament/warhead dismantlement verification.

¹⁸³ 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/.../Brief2010_SmallSafe.pdf

¹⁸⁴ 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

¹⁸⁵ Nick Hopkins, “Trident: No Need for Like-for-Like Replacement, Says Danny Alexander,” *The Guardian*, January 22, 2013, www.guardian.co.uk/uk/2013/jan/22/trident-replacement-danny-alexander

¹⁸⁶ “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.

¹⁸⁷ “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, Permanent Mission of France to the United Nations in New York, July 1, 2011, www.franceonu.org/spip.php?article5660

¹⁸⁸ Ibid.

¹⁸⁹ “UK Norway Workshop: Questions Answered,” United Kingdom-Norway Initiative, <https://registration.livgroup.co.uk/ukniworkshop/FAQ/#faq10>

At the meeting in Washington in 2012, according to the joint statement, the P5 continued to share information on their respective verification experiences, including lessons learned from New START implementation and an overview of the US-UK joint verification work (see Action 19). The United States also offered to host a follow-up briefing on this effort.¹⁹⁰ As part of work to advance transparency, the United States briefed the other NWS on its activities at the Nevada National Security Site and provided a tour of the Nuclear Risk Reduction Center.

During the meeting in Paris in 2011, the five NWS also agreed to continue to work on key nuclear glossary terms and organized a “dedicated working group” on terminology.¹⁹¹ At the 2012 meeting, the NWS agreed on a work plan for the working group, which is chaired by China. The working group held its first experts’ meeting in September 2012.

The NWS also continued to discuss, but have not yet agreed on, a standard form for reporting their implementation of the 2010 Action Plan.

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.

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, the US-China strategic dialogue has been taking place since the 1980s, although at varying time intervals and levels of seniority, depending on external events.¹⁹² According to US accounts, China has often resisted discussing nuclear weapon stockpiles and postures as part of these exchanges.¹⁹³ 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 2009.¹⁹⁴

The key disagreements between the two sides have 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. The United States then demands greater levels of transparency concerning China’s nuclear arsenal, which China perceives as threatening as it would

¹⁹⁰ 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

¹⁹¹ 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

¹⁹² For a general account of these exchanges, see Shirley A. Kan, “U.S.-China Military Contacts: Issues for Congress,” CRS Report RL32496, July 26, 2011, www.fas.org/sgp/crs/natsec/RL32496.pdf

¹⁹³ Ibid.

¹⁹⁴ US-China Joint Statement, office of the Press Secretary, The White House, November 17, 2009, www.whitehouse.gov/the-press-office/us-china-joint-statement

increase its vulnerability to a first strike.¹⁹⁵ 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, established in 2009, introduced in 2011 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."¹⁹⁶

The fourth round of the US-China Strategic and Economic Dialogue took place in May 2012 in Beijing. As part of the Strategic Security Dialogue discussions, the two sides "...had candid and in-depth exchange of views on issues relating to the strategic and comprehensive security of the two countries." They further agreed to continue the strategic dialogue and work "to develop the mechanism to increase mutual trust and manage differences between the two countries."¹⁹⁷ The joint statement on the outcomes, however, made no specific reference to the most controversial issues, such as positions on ballistic missile defense and transparency in nuclear arsenals.

China and the United States also engage in annual bilateral Defense Consultative Talks. The latest—the thirteenth—meeting took place in December 2012 in Washington, DC. Information on the content of discussions is scarce, but, according to the readout released by the US Department of Defense, the two sides "stressed the importance of avoiding miscalculation in the areas of cyber, space, nuclear policy and missile defense."¹⁹⁸

China-Russia:

China and Russia view each other mostly favorably, and Russian expert Dmitri Trenin notes that Russia's policy of nuclear deterrence vis-à-vis China is implied rather than "articulated openly."¹⁹⁹ 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.²⁰⁰ In 1994, the two countries agreed to a mutual no-first-use of nuclear weapons and no targeting of nuclear weapons at each other.²⁰¹ In 2009, they agreed to share missile launch notifications with each other.²⁰²

¹⁹⁵ For a discussion of US-China strategic dialogue and its deadlock, see Stephanie Spies, "China's Nuclear Policy: (No) First Use?" Center for Strategic and International Studies, October 20, 2011, <http://csis.org/blog/chinas-nuclear-policy-no-first-use>, and Gregory Kulacki, "Chickens Talking with Ducks: The US-Chinese Nuclear Dialogue," *Arms Control Today*, October 2011, www.armscontrol.org/act/2011_10/U.S._Chinese_Nuclear_Dialogue

¹⁹⁶ 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."

¹⁹⁷ "Joint Statement of the US-China Strategic and Economic Dialogue: Outcomes of the Strategic Track, May 3-4, 2012," US Department of State, May 4, 2012, www.state.gov/r/pa/prs/ps/2012/05/189287.htm

¹⁹⁸ "Readout of the US-China Defense Consultative Talks," US Department of Defense, December 12, 2012, www.defense.gov/releases/release.aspx?releaseid=15738

¹⁹⁹ 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

²⁰⁰ Sherman Garnett, "Challenges of the Sino-Russian Strategic Partnership," *The Washington Quarterly* (Autumn 2011), www.twq.com/01autumn/garnett.pdf

²⁰¹ See www.nti.org/media/pdfs/3b_1.pdf?_id=1316627913 (in Chinese).

²⁰² Champlin, "China, Russia Agree on Launch Notification," and "China and Russia Sign Missile Notification Pact," Sina, October 14, 2010.

Military cooperation and high-level visits continued during the reporting period, and China and Russia “have smoothly implemented the agreement on informing each other of ballistic missiles and space launch vehicles.”²⁰³ 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.”²⁰⁴ In June 2012, during President Putin’s visit to China, the leaders reaffirmed their strategic partnership, confirmed they held similar views of various issues, including missile defense, and agreed to continue military and other forms of cooperation.²⁰⁵

China and Russia also hold regular bilateral strategic security consultations, the latest—the eighth—round of which took place in Beijing in January 2013. The two sides have reportedly discussed coordinating their response to the US plans on developing missile defense in Asia Pacific.²⁰⁶

At the same time, Russia also appears to be concerned about China’s modernization programs, though to a lesser extent than the United States.

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.

As indicated under Action 4, the United States and Russia exchanged numerous notifications during the reporting period, informing each other of strategic weapons movements and missile launches (flight tests).²⁰⁷

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.”²⁰⁸ In spite of the dialogue, Russia and the United States have so far been unable to reach a compromise on either the missile defense or the non-strategic nuclear weapons. The group appears to have been on hiatus for most of 2012 due to the presidential elections in the United States.

At a meeting in June 2012, Presidents Obama and Putin discussed an array of strategic issues, including missile defense, and agreed to “continue to work through some of the difficult problems” in this regard. In early 2013, some experts suggested that Russia and the United States might be

²⁰³ “China to Promote Relations with Russia to New Stage,” Xinhua, June 4, 2011, www.china.org.cn/world/2011-06/04/content_22715946.htm

²⁰⁴ “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

²⁰⁵ “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>

²⁰⁶ Sergei Blagov, “Russia Seeks Stronger Security Ties with China,” *Eurasia Daily Monitor*, Vol. 10, No. 14 (January 25, 2013), www.janestown.org

²⁰⁷ “New START Treaty,” Bureau of Arms Control, Verification and Compliance, U.S. Department of State, October 20, 2011, www.state.gov/t/avc/rls/175945.htm

²⁰⁸ “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

close to a deal on missile defense, but the reports were quickly denied by Russian Foreign Minister Sergey Lavrov.²⁰⁹ Following the North Korean nuclear test in February 2013, however, US Secretary of Defense announced that the United States was cancelling the fourth (final) phase of the European Phased Adaptive Approach and instead adding ground-based interceptors to locations in the United States.²¹⁰ The fourth phase of the European missile defense would have entailed the deployment of SM3-Block II interceptors in Poland.²¹¹ It remains to be seen how this change in plans affects the US-Russian and NATO-Russian dialogue.

NATO-Russia

The two sides engage in dialogue through the NATO-Russia Council (NRC) established in 2002.²¹² 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.”²¹³ As far as nuclear issues are concerned, the Council has not been successful in recent years in bridging the difference 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. On February 29, 2012, both the NATO Secretary General Anders Fogh Rasmussen and Russian Deputy Foreign Minister Sergei Ryabkov acknowledged that the negotiations on missile defense cooperation were at a standstill.²¹⁴

The matters did not improve in 2012, and at an end-of-year press conference, Russian Deputy Defense Minister Anatoly Antonov stated that the NRC had not made progress on most of the issues it addressed. He further noted that missile defense, to a large extent, defines the future of Russia’s relations with both the United States and NATO.²¹⁵ Failure to reach an understanding on missile defense in Europe will likely continue to complicate NATO-Russia dialogue and negatively affect the prospects for a follow-on treaty between the United States and Russia entailing further nuclear arms reductions.

²⁰⁹ Tim Z. Collina, “Some See Chance for Missile Defense Deal,” *Arms Control Today*, January/February 2013, www.armscontrol.org/act/2013_01-02/Some-See-Chance-for-Missile-Defense-Deal; “Lavrov Denies that Russia, US Preparing to Exchange Declarations on Missile Defense,” *The Voice of Russia*, February 26, 2013, http://english.ruvr.ru/2013_02_26/Lavrov-denies-that-Russia-US-preparing-to-exchange-declarations-on-missile-defense/

²¹⁰ 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

²¹¹ Tom Collina, “The European Phased Adaptive Approach at a Glance,” Arms Control Association, February 2013, www.armscontrol.org/factsheets/Phasedadaptiveapproach

²¹² Please see “NATO’s Relations with Russia,” Official NATO website, www.nato.int/cps/en/natolive/topics_50090.htm

²¹³ Please see “NATO-Russia Council,” Official NATO website, www.nato.int/cps/en/SID-93331D27-9292E54B/natolive/topics_50091.htm

²¹⁴ “NATO Chief Says Missile Defense Talks with Russia at Standstill,” Global Security Newswire, February 29, 2012, www.nti.org/gsn/article/nato-chief-says-missile-defense-talks-russia-standstill/

²¹⁵ “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

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, and no new subsidiary bodies were established. Pakistan continued to block the adoption of a program of work due to its opposition to the commencement of negotiations of a fissile material treaty without assurances that such a treaty would cover existing stocks of fissile material for weapons purposes.

The latest attempt to reach a consensus on a program of work was made under the Hungarian presidency of the CD in February 2013.²¹⁶ The proposed program envisioned the establishment of three working groups—one to consider proposals on nuclear disarmament negotiations, including a fissile material treaty, one to discuss prevention of an arms race in outer space, and the third to discuss negative security assurances. It further provided for the appointment of three special coordinators to seek member states' views on new types of WMD; comprehensive program of disarmament, and transparency in armaments.²¹⁷ As the independent advocacy project, Reaching Critical Will, reported, several states expressed concerns about the draft program, but were willing to join the consensus. Pakistan and Egypt, however, were not ready to support the proposal, with the latter finding it problematic that the working group on nuclear disarmament would prioritize the fissile material treaty.²¹⁸ Pakistan reaffirmed its opposition to negotiating a fissile material treaty absent an assurance that it would cover existing stocks.

In the dearth of progress at the CD, several states again took up the issue of revitalizing multilateral disarmament negotiations at the 2012 session of the UNGA First Committee, which took place on October 8–November 7, 2012. Some of the proposals on new/alternative ways to overcome the deadlock that were initially presented in 2011 had been further developed and gathered wider support.²¹⁹ Most notably, the resolution tabled by Austria, Mexico, and Norway, titled “Taking forward Multilateral Nuclear Disarmament Negotiations,” was adopted by a vote of 133 in favor, four against, and 35 abstentions.²²⁰ The resolution mandates the establishment of an OEWG “to develop proposals to take forward multilateral nuclear disarmament negotiations.”²²¹ The resolution does not pre-determine the agenda or the rules of procedure, leaving these decisions to the group itself and not tying it to any particular issue on the CD agenda. The OEWG is to convene in Geneva for up to three weeks and submit a report on its discussions and proposals to the General Assembly

²¹⁶ For discussion of the draft program of work proposed by Egypt in 2012, please see the 2012 Monitoring Report.

²¹⁷ Draft Decision on a Programme of Work for the 2013 Session, CD/1948, February 11, 2013, www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/papers/1948.pdf

²¹⁸ Beatrice Fihn, “While Nuclear Weapons Are Being Tested, the CD Continues to Fail,” Reaching Critical Will, February 12, 2013, www.reachingcriticalwill.org/disarmament-fora/cd/2013/reports/7426-while-nuclear-weapons-are-being-tested-the-cd-continues-to-fail

²¹⁹ For proposals presented at the First Committee in 2011, please see the 2012 Monitoring Report.

²²⁰ Seventeen more states also joined as co-sponsors. For the voting record, see Reaching Critical Will, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/votes/L46.pdf.

²²¹ “Taking forward Multilateral Nuclear Disarmament Negotiations,” A/C.1/67/L.46, October 19, 2012. (Also A/RES/67/56, January 4, 2013.)

in fall 2013. Civil society and international organizations are expected to contribute to the working group's discussions. The group's organizational meeting took place on March 14, 2013, and the group is scheduled to begin its work in May 2013.

Four of the NWS voted against the resolution, while China abstained. In a joint explanation of vote, France, the United Kingdom, and the United States said they saw "little value in this initiative," which they say undermines the existing machinery such as the CD and UN Disarmament Commission. They further expressed concern that the working group's discussions may "jeopardize the consensus" achieved at the 2010 NPT Review Conference, presumably because such discussions will not necessarily be guided by the Action Plan.²²² All of the NWS subsequently stated that they were not planning to participate in the working group.

Indonesia, on behalf of the Non-Aligned Movement (NAM), submitted another new First Committee resolution on nuclear disarmament. By a vote of 165 in favor and five abstentions, it was decided to convene a one-day, high-level meeting of the General Assembly on nuclear disarmament on September 26, 2013.²²³ Presumably, heads of state and ministers of foreign affairs will deliver statements outlining their priorities and expectations with respect to nuclear disarmament, possibly along with proposals for further action. So far it is not clear, however, what kind of outcome is expected beyond drawing political leadership's attention to the issue.

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

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

²²² Explanation of vote on behalf of France, the United Kingdom and the United States, November 6, 2012, available on Reaching Critical Will website, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/eov/L46_France-UK-US.pdf

²²³ "High-Level Meeting of the General Assembly on Nuclear Disarmament," A/C.1/67/L.19, October 18, 2012, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L19.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, 2010.²²⁴ 68 delegates spoke at the meeting, recognizing both recent successes in disarmament and the lack of concrete progress in the CD.²²⁵ No actionable decisions were adopted. As a follow-up, another meeting took place in New York at the United Nations on July 27-29, 2011.²²⁶ (See 2012 Monitoring Report.)

In addition, meetings of the UN Secretary-General's Advisory Board on Disarmament Matters, in February and June 2011, discussed "Follow-up on the issue raised at the High-level Meeting, including inter alia the possible establishment of a high-level panel of eminent persons with special focus on the functioning of the Conference on Disarmament."²²⁷ Some board members thought such a panel would be valuable, but others doubted that it would be successful; there were also different views of what type of panel would be most beneficial.²²⁸ The Board recommended that the Secretary-General 1) "persist in encouraging the Conference on Disarmament to seek all efforts to achieve a breakthrough," 2) develop recommendations "should a high-level panel of eminent persons be established," and 3) "continue to raise public awareness and encourage civil society groups and non-governmental organizations to offer input."²²⁹

For related developments at the UNGA First Committee in 2012, see Action 6.

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

Most of the NWS released their updated doctrines, postures, and white papers prior to the 2010 NPT Review Conference. The United Kingdom released its Strategic Defence and Security Review in October 2010, and China released its regular Defense White Paper in March 2011. No change in the NWS policies on negative security assurances was observed in 2012-13.

²²⁴"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

²²⁵"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

²²⁶"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/

²²⁷"Advisory Board on Disarmament Matters," United Nations Office for Disarmament Affairs, www.un.org/disarmament/HomePage/AdvisoryBoard/AdvisoryBoard.shtml

²²⁸"Work of the Advisory Board on Disarmament Matters," United Nations General Assembly document A/66/125, July 11, 2011.

²²⁹ Ibid.

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.²³⁰ 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."²³¹

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."²³² There were no changes to this policy during the reporting period.

France

No change

France has not adopted any new doctrinal documents since the 2010 NPT Review Conference and has not announced any changes in its policy on security assurances. 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. According to France's official NPT page, French policy on security assurances continues to be in line with its unilateral statement of April 1995.²³³

Russia

No change

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

²³⁰ Unilateral declarations contained in UN documents S/1995/261, S/1995/262, S/1995/263, and S/1995/264.

²³¹ "Statement on Security Assurances Issued on 5 April 1995 by the People's Republic of China," contained in the UN document S/1995/265.

²³² China's National Defense in 2010, released on March 30, 2011, www.china.org.cn/government/whitepaper/node_7114675.htm

²³³ Please see "Support and Assistance to Strengthening the Nuclear Non-Proliferation Regime," France TNP website, www.francetnp2010.fr/spip.php?article84

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.²³⁴

This provision limited the scenarios for possible use compared to the 1998 Strategic Defence Review.²³⁵ 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.”²³⁶

United States

No change

No new doctrinal documents have been released, and there has been no change in US overall policy on security assurances since the 2010 Nuclear Posture Review. The NPR declared “the United States will not use or threaten to use nuclear weapons against any non-nuclear weapon state that is party to the NPT and in compliance with their nuclear non-proliferation obligations.”²³⁷

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

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

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

²³⁴ 2010 UK SDSR, p. 37-38.

²³⁵ 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.

²³⁶ 2010 UK SDSR, p. 38.

²³⁷ Nuclear Posture Review Report, U.S. Department of Defense, April 2010, p. 15.

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.²³⁸

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

Not applicable - action completed prior to 2010

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

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

No action

The Soviet Union expressed a number of reservations and interpretations at the time of signing Protocol II to the Treaty of Tlatelolco, and the Russian Federation has not revised or withdrawn those reservations.²³⁹

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

Yes

No violations by states parties to Treaty of Tlatelolco were observed. However, Argentina lodged a protest with the United Nations in February 2012, arguing that the United Kingdom had sent a “nuclear-capable” (possibly nuclear-armed) submarine to the South Atlantic, violating commitments under Protocol I to the Treaty of Tlatelolco.²⁴⁰ The United Kingdom stated it does not comment on the location of its nuclear submarine on patrol. In February 2013, Argentina again accused the

²³⁸ “Status of the Member States and Signatories to the Treaty of Tlatelolco,” OPANAL website, www.opanal.org/opanal/tlatelolco/p-tlatelolco-i.htm

²³⁹ 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

²⁴⁰ “UK Sent Nuclear Sub near Falklands, Says Argentina,” BBC, February 10, 2012, www.bbc.co.uk/news/world-latin-america-16993391

United Kingdom of actions contrary to the Latin American NWFZ treaty and its protocols. Speaking at the CD, the representative of Argentina reiterated concerns about the possible presence of UK nuclear weapons in South Atlantic. The UK representative responded that there has been no “reinforcement” of UK military assets in the South Atlantic and that they honor the protocol to the Treaty of Tlatelolco.²⁴¹

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.²⁴²

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.²⁴³

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

Limited progress

There have been no new developments since May 2011, when President Obama submitted the three protocols of the South Pacific NFZ to the US Senate “with a view to receiving the advice and consent of the Senate to ratification.”²⁴⁴

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

²⁴¹ UK Right of Reply, Ambassador Joanne Adamson, February 25, 2013, <http://ukmissiongeneva.fc.gov.uk/en/news/?view=News&id=859438082#>

²⁴² 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/

²⁴³ 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.

²⁴⁴ 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

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

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

Yes +  Red flag

States parties to the South Pacific NFZ Treaty have been compliant with the main prohibitions under the treaty, but concerns arose in relation to potential nuclear trade with India. Article 4 of the Treaty of Rarotonga prohibits member states from exporting nuclear material and equipment to non-nuclear weapon states “unless subject to the safeguards required by Article III.1 of the NPT.”²⁴⁵ 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.²⁴⁶ It is unclear how one could legally circumvent the specific reference to safeguards required by the NPT short of amending the Rarotonga Treaty.

In December 2011, Australia’s ruling Labor Party, at a national party conference, adopted a decision to allow the export of uranium to India.²⁴⁷ “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, 2011.²⁴⁸ In October 2012, during her visit to India, Australia’s Prime Minister Julia Gillard and Indian Prime Minister Manmohan Singh agreed to start the negotiations of a bilateral safeguards agreement, to verify that uranium sold by Australia is not used for India’s weapons program. The talks were set to begin on March 19, 2013, with reports saying it might take two years to conclude the deal and begin the supply of uranium to India.²⁴⁹

Southeast Asian NWFZ (SEANWFZ; Treaty of Bangkok)

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

²⁴⁵ South-Pacific Nuclear-Free Zone Treaty text, <http://cns.miis.edu/inventory/pdfs/aptspnfz.pdf>

²⁴⁶ 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

²⁴⁷ 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

²⁴⁸ Ibid.

²⁴⁹ Ben Doherty, “Australia and India to Start Uranium Sale Talks,” *The Sydney Morning Herald*, March 7, 2013, www.smh.com.au/world/australia-and-india-to-start-uranium-sale-talks-20130307-2fmog.html; Sid Maher, “PM Seals Uranium Deal with India,” *The Australian*, October 18, 2012.

Action completed prior to 2010

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

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

None (Target: 5)

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

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

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

2010-2011: Significant progress

2012-2013: No progress

On November 14, 2011, the Executive Committee of the SEANWFZ Commission met with nuclear weapon states and came to an agreement that “could be the start towards the signing of the SEANWFZ Treaty by the nuclear weapon states.”²⁵⁰ 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.”²⁵¹ 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.²⁵² 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

²⁵⁰ “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

²⁵¹ Statement at the Conference on Disarmament, January 24, 2012, www.reachingcriticalwill.org/political/cd/2012/statements/part1/24January_US.pdf

²⁵² Based on information from diplomats familiar with consultations.

understanding (MoU) between China and ASEAN (SEANWFZ states) on this matter, and the MoU would be referred to in the “accession protocol.”²⁵³

It was expected that the five NWS would sign the protocol on July 12, 2012, and that ASEAN and China would sign the MoU on July 10, 2012. However, at the last moment, the signings were postponed, reportedly because some of the NWS informed ASEAN that they would express reservations or attach interpretative statements to their signatures.²⁵⁴ 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.²⁵⁵ 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 March 2013, the disagreement between ASEAN and the four NWS over the reservations and interpretative statements has not been resolved and no new date for the signature of the protocol has been set.

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

Not applicable

NWS have not yet ratified the SEANWFZ protocol.

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

Yes

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

African NWFZ (ANWFZ, Treaty of Pelindaba)

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

Yes, seven more member states

Twenty-nine states had ratified African NWFZ Treaty and deposited instruments of ratification to the African Union (AU) Commission at the time of the 2010 NPT Review Conference.²⁵⁶ Twenty-

²⁵³ “ASEAN, P-5 Meet to Smoothen SEANWFZ Accession,” *The Jakarta Post*, November 15, 2011, www.thejakartapost.com/news/2011/11/15/asean-p5-meet-smoothen-seanwfz-accession.html, 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

²⁵⁴ “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

²⁵⁵ 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.

²⁵⁶ Including the Sahrawi Arab Democratic Republic.

three other states had signed but not ratified the Treaty, and one more state (Cameroon) had ratified but not yet deposited its instrument of ratification by May 2010.

Since the 2010 NPT Review Conference, seven states have joined the Pelindaba Treaty: Cameroon, Chad, Comoros, Ghana, Guinea-Bissau, Namibia, and Zambia.²⁵⁷ 36 states are currently party to the Treaty. 18 states had signed the treaty before 2010 but have yet to ratify it (including Morocco, which is not an AU member, and the Sahrawi Arab Democratic Republic, which is not a member of the UN and not a party to the NPT).²⁵⁸ 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 signed the Treaty of Pelindaba or the NPT. Overall then, there are 19 eligible countries that have yet to join the Pelindaba.²⁵⁹

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

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

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

Russia ratified Protocols I and II in March 2011. However, it attached reservations to its ratification. First, Russia does not rule out the possibility of using nuclear weapons “against states that are part of the zone free from nuclear weapons in Africa in situations where they have allied commitments to other nuclear states and may participate in military actions using nuclear weapons against Russia, or are members of the corresponding coalitions.”²⁶⁰ 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

²⁵⁷ Cameroon ratified the Treaty of Pelindaba in June 2009, but deposited its instrument of ratification only in September 2010. Comoros was the latest state to join, in July 2012. List of countries which have signed, ratified/acceded to the African Nuclear-Weapon-Free Zone Treaty (The Treaty of Pelindaba), African Union website, www.au.int/en/sites/default/files/pelindaba%20Treaty_0.pdf. The list excludes Morocco, which is not an African Union member but signed the African NWFZ treaty in 1996.

²⁵⁸ In the 2012 Monitoring report, Morocco was mistakenly counted as a member state. However, it has not yet ratified the Treaty of Pelindaba.

²⁵⁹ This includes Morocco, the Sahrawi Arab Democratic Republic, and South Sudan.

²⁶⁰ “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/.

Limited progress

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

On May 2, 2011, the Obama administration submitted Protocols I and II for Senate advice and consent to ratification.²⁶¹ No action has been taken since 2011, and it is unclear whether the issue will be addressed in 2013.

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, two of the Pelindaba member states (Benin and Guinea) have not yet brought into force their comprehensive safeguards agreements with the IAEA (as mandated by Article 9 (b) of the treaty). Guinea-Bissau, also a member of ANWFZ, has not yet signed its comprehensive safeguards agreement, which has been approved by the IAEA Board of Governors.²⁶²

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.²⁶³ 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.²⁶⁴ 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.

²⁶¹ 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/

²⁶² NPT Comprehensive Safeguards Agreements: Overview of Status, IAEA, www.iaea.org/Publications/Factsheets/English/nptstatus_overview.html

²⁶³ 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>

²⁶⁴ "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

Article 12 of the Pelindaba Treaty mandates the establishment of the African Nuclear Energy Commission (AFCONE), to ensure compliance with the treaty. Towards that end, the First Conference of States Parties was held in Addis Ababa on November 4, 2010. The Conference of States Parties elected 12 commissioners for a three-year term and endorsed the decision to establish the headquarters of AFCONE in South Africa.²⁶⁵ 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.”²⁶⁶ 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.”²⁶⁷ The government of South Africa reported it was finalizing the AFCONE host agreement with the African Union Commission. The Second Conference of States Parties took place in November 2012 in Addis Ababa.

Central Asian NWFZ (CANWFZ)

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

Not applicable—action completed prior to 2010

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

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

None

The protocol to the Central Asian NWFZ Treaty has not yet opened for signature due to continued disagreement between the members of the zone and three nuclear weapon states (France, the United Kingdom and the United States). The three NWS do not recognize the zone, arguing that provisions in Article XII of the treaty would allow the stationing of Russian nuclear weapons in Central Asia if the Tashkent (Collective Security Organization) Treaty is invoked. Russia has repeatedly stated that it had no problem with the text of the Central Asia NWFZ Treaty “as-is,” and was ready to sign the Protocol. China has also welcomed CANWFZ and expressed its readiness to join its protocol.

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

²⁶⁵ Institute for Strategic Studies report, October 2011, p. 7.

²⁶⁶ Noel Stott, “The Treaty of Pelindaba: Towards the Full Implementation of the African NWFZ Treaty,” UNIDIR report, p. 21, <http://unidir.org/pdf/articles/pdf-art3083.pdf>

²⁶⁷ “Africa: The African Commission on Nuclear Energy Convenes Its Second Meeting,” Press Release, July 26, 2012, <http://allafrica.com/stories/201207261025.html>

Limited progress

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

Since then, the Central Asia states have held consultations with the United States, including on the margins of the UNGA First Committee sessions, on possible ways to overcome existing differences, but the content and results of such consultations are not made public. No solution has been reached so far.²⁶⁸

In February 2013, speaking at the Conference on Disarmament, Kazakhstan's Deputy Minister of Foreign Affairs Alexei Volkov announced plans to hold a meeting of legal experts to address the issue of protocol ratification.²⁶⁹ However, these consultations between the five Central Asian states and the NWS had to be postponed.

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

Not applicable

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

Yes +  Red Flag

The Central Asian states have been compliant with the main prohibitions under the CANWFZ treaty, as well as provisions on concluding safeguards agreements with the IAEA. However, Kazakhstan's nuclear cooperation with India appears to contradict the terms of Article 8 of CANWFZ (see below).

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, 2011.²⁷⁰

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.²⁷¹

²⁶⁸ Conversations with diplomats familiar with the consultations.

²⁶⁹ Statement by H.E. Mr. Alexei Volkov, Deputy Minister of Foreign Affairs of the Republic of Kazakhstan at the High Level Segment of the Conference on Disarmament, February 2, 2013, www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/26Feb_Kazakhstan.pdf

²⁷⁰ Conclusion of Additional Protocols: Status as of 20 February 2012, IAEA, www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf.

²⁷¹ 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>

As already stated above, India is not recognized as a nuclear weapon state under the NPT; it does not have a comprehensive safeguards agreement with the IAEA, and its Additional Protocol has not yet entered into force. However, in January 2009, Kazakhstan's state nuclear company Kazatomprom signed a memorandum of understanding with the Nuclear Power Corporation of India Ltd., outlining "potential areas of cooperation between the two companies, including the supply of natural uranium and fuel elements from Kazakhstan to India."²⁷² According to media reports, already in the first half of 2010, India imported 300 tons of natural uranium from Kazakhstan.²⁷³ 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 India by 2014.²⁷⁴ During his official visit to India on March 3-5, 2013, Kazakhstan's Foreign Affairs Minister Erlan Idrissov confirmed to the media that nuclear cooperation agreements are being implemented and that the two sides are looking to negotiate arrangements beyond 2014.²⁷⁵

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: 5

Since May 2010, a total of six states ratified the CTBT.²⁷⁶ The latest country to do so was Chad, on February 8, 2013. Only one more state signed the CTBT during the same period—Niue, on April 9, 2012.

²⁷² "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.

²⁷³ "Uranium Imports Boost Indian Reactor Output," World Nuclear News, October 12, 2010, www.world-nuclear-news.org/NP-Uranium_imports_boost_Indian_reactor_output-1210104.html

²⁷⁴ "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>

²⁷⁵ Transcript of the Joint Media Interaction of External Affairs Minister and Foreign Minister of Kazakhstan, Ministry of External Affairs, Government of India, March 5, 2013, www.mea.gov.in/media-briefings.htm?dtl/21268

²⁷⁶ These are Brunei Darussalam, Chad, Ghana, Guatemala, Guinea, and Indonesia. 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/

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, 2012.²⁷⁷

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 change in position, no new actions

China had several years ago submitted the CTBT to the National People's Congress for its review, but no progress has been reported since. At the Article XIV Conference (on facilitating the CTBT's entry-into-force) in September 2011, Chinese representative stated that, "The Chinese government will continue to make efforts for promoting the Treaty ratification review process by our national legislation authority."²⁷⁸

Egypt

No change in position, no new actions

Egypt has traditionally linked its accession to new arms control treaties and acceptance of new nonproliferation measures to Israel's accession to the NPT as a non-nuclear weapon state. In a somewhat softer stance, Egypt has also linked its support to progress on establishing a zone free of weapons of mass destruction in the Middle East. Egypt's statement at the Article XIV Conference in September 2011 did not signal a change in this position.²⁷⁹

Iran

No action

Iran did not deliver a statement at the Article XIV Conference in September 2011, and did not otherwise indicate an intent to ratify the CTBT.

United States

No visible progress

Upon assuming the office in 2009, President Obama announced the intent to "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.

²⁷⁷ "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.

²⁷⁸ "Statement by the Chinese Delegation at the 2011 Conference on Facilitating the Entry into Force of the Comprehensive Nuclear-Test-Ban Treaty," New York, 23 September 2011, Permanent Mission of the People's Republic of China to the UN, www.china-un.org/eng/chinaandun/disarmament_armscontrol/qtxx/t863094.htm

²⁷⁹ Statement at the Article XIV Conference, New York, September 2011, www.ctbto.org/fileadmin/user_upload/Art_14_2011/Statements/Egypt.pdf

Acting 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.²⁸⁰ 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 2002.²⁸¹

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

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

Yes

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

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 4.9.²⁸² 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.²⁸³ In this regard, the development of new

²⁸⁰ 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

²⁸¹ 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

²⁸² 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/

²⁸³ 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/

nuclear weapons systems and their deployment would appear to defeat the long-term purpose and spirit of the CTBT. As discussed under Action 1, all NWS are modernizing their nuclear arsenals at varying rates, with only the United Kingdom yet to make the final decision on the replacement of its Vanguard SSBNs that carry Trident missiles and the production of a new warhead for Trident. France has recently deployed a new warhead (the TNA) on its air-launched cruise missile and is scheduled to begin deployment of the new TNO warhead on its SLBMs in 2015.

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, 2012.²⁸⁴ The defense cooperation agreement France and the United Kingdom concluded in November 2010 provides for the two states' collaboration in conducting experiments that "will model performance of [their] nuclear warheads and materials to ensure long-term viability, security and safety."²⁸⁵ Construction of facilities covered by this agreement is in progress in both countries.²⁸⁶ 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.²⁸⁷ 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

²⁸⁴ 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>.

²⁸⁵ "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/

²⁸⁶ Technology Development Centre is under construction at Aldermaston in the UK, and France is developing the Épure radiographic and hydrodynamics facility at Valduc.

²⁸⁷ 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.

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

The next Article XIV Conference is expected to take place in September 2013.

All five NWS took part in the seventh Article XIV conference in September 2011 in New York. All, except China, were officially represented at the foreign minister or deputy minister level. China was represented by a counsellor from China's Permanent Mission to the United Nations.²⁸⁸ According to the CTBTO Preparatory Commission, representatives of "over 160" states attended the seventh Article XIV conference; representatives of 58 ratifying and signatory states delivered statements.²⁸⁹ Of the Annex 2 states parties to the NPT, only Iran did not deliver a statement, although its representatives attended 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.²⁹⁰ 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 seventh Article XIV conference, the CTBTO assembled a summary document on the activities reported under Measure I (requesting CTBTO to collect states' inputs on their outreach activities) by the ratifying and signatory states.²⁹¹ The document indicated that under 30 states had submitted information on their activities to the

²⁸⁸ US head of delegation was Ellen Tauscher, Under Secretary for Arms Control and International Security; Russian head of delegation Sergey Ryabkov, Deputy Minister of Foreign Affairs; France's head of delegation Alain Marie Juppé, Minister of Foreign Affairs; U.K. head of delegation Mr. Alistair Burt, MP, Parliamentary Under Secretary of State, and China's head of delegation was Zhang Jun'an, Counsellor, Permanent Mission of the People's Republic of China to the United Nations.

²⁸⁹ "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-into-force/?Fsize=atextonly%3D1, and Statements in Alphabetical Order, www.ctbto.org/the-treaty/article-xiv-conferences/2011-conference-on-facilitating-the-entry-into-force-of-the-comprehensive-nuclear-test-ban-treaty-united-nations-new-york-usa/statements-in-alphabetical-order-andadditional-statements/?Fsize=atextonly%3D1

²⁹⁰ 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.

²⁹¹ Please see CTBT-Art.XIV/2011/4/Rev.1, September 19, 2011.

CTBTO. A lot 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.

CTBTO has not updated information on state reporting since 2011, and it is likely that such reports will be submitted closer to the eighth Article XIV conference later in 2013. The rolling list compiled by the CTBTO shows almost 60 events between March and December 2012, at which the treaty's entry-into-force was promoted, including such high-level meetings as the Arab League Summit, Seoul Nuclear Security Summit, G-8 Summit, Summit of the Americas, and others.²⁹²

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 March 1, 2013, 45 states had paid their contributions for 2013 in full. Of the NWS, only the United Kingdom had paid in full for 2013 at the time of this writing. Twenty-two states had partially paid their current year contributions, including France; 37 had not paid their contributions for 2013, including China; and 79 states, including the United States, had their voting rights suspended for past dues.²⁹³ The year-end collection results for 2012, however, were strong, with the combined collection rate for the US dollar and Euro portions amounting to 93 percent, up from 88.8 percent in 2011.²⁹⁴

In addition to the regular budget, some states provide voluntary contributions to the CTBTO, and according to the Preparatory Commission's website, such contributions "have increased significantly" since 2010, certainly a positive development.²⁹⁵

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."²⁹⁶ This contribution follows the EU's 5.3 million euro contribution made in July 2010.²⁹⁷

The United States pledged two contributions in September 2011, \$8.9 million and \$25.5 million, also towards the improvement of monitoring and verification.²⁹⁸ In February 2012, CTBTO announced that Japan made a voluntary contribution of \$737,000 to improve the "organization's capabilities to monitor the dispersion of radioactivity in the atmosphere."²⁹⁹

²⁹² Promoting the CTBT at Regional and Global Levels, www.ctbto.org/the-treaty/article-xiv-conferences/article-xiv-conferenceentry-into-force-process/promoting-the-ctbt-at-regional-and-global-levels/

²⁹³ Latest status of payments available at the CTBTO website, <http://ctbto.org/member-states/member-states-payments/>

²⁹⁴ Annual Report 2012, Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, CTBT/ES/2012/5, March 1, 2013, p. 63.

²⁹⁵ See CTBTO website, www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/

²⁹⁶ "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/

²⁹⁷ See CTBTO website, www.ctbto.org/the-organization/the-provisional-technical-secretariat-pts/budget/page-2-budget/

²⁹⁸ Ibid.

²⁹⁹ "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/

Many other countries provide smaller voluntary contributions and cosponsor outreach activities, workshops, and trainings organized jointly with the CTBTO.³⁰⁰

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

Yes

43 states have concluded facility agreements with the CTBTO Preparatory Commission as of March 2013, and eight of them (with Cameroon, Cape Verde, Italy, Israel, Portugal, Oman, Sri Lanka, and Tunisia) have not yet entered into force.³⁰¹ Uganda signed and entered into force a new agreement in 2012.³⁰² According to the CTBTO Preparatory Commission, facility agreements need to be signed with 46 more states.³⁰³

The number of certified IMS stations went up from 255 in April 2010 to 274 by March 2013 (there were 270 by February 2012), making the IMS system 81 percent complete.³⁰⁴ As of March 1, 2013, there were also 14 stations undergoing testing, 21 under construction, and 28 planned. This brings the IMS total to 337.³⁰⁵ No new facilities began construction in 2012. Twenty-four more facilities are planned to be located in Australia (Antarctica), Brazil, Central African Republic, China, Ecuador, Egypt, French Guiana, Israel, Iran, Italy, Nepal, Pakistan, Russia, South Africa, United Kingdom, and United States. Another four facilities, originally planned to be located in India, have not been assigned new locations.³⁰⁶

³⁰⁰ Information courtesy of CTBTO Preparatory Commission. Full list of states that provide voluntary contributions was not available.

³⁰¹ “Facility Agreements,” CTBTO website, www.ctbto.org/member-states/facility-agreements/

³⁰² “Uganda Signs Facility Agreement,” CTBTO website, June 15, 2012, www.ctbto.org/press-centre/highlights/2012/uganda-signs-facility-agreement/

³⁰³ “Facility Agreements,” CTBTO website.

³⁰⁴ See CTBTO website, www.ctbto.org/map/, use the International Monitoring System tab on the right for exact numbers.

³⁰⁵ CTBTO website, www.ctbto.org/map/, Click on “show today” on the timeline to see current information in the right-hand sidebar.

³⁰⁶ Information courtesy of CTBTO.

CTBTO is also continuing preparations for the Integrated Field Exercise (IFE) to be held in Jordan in 2014. This will be the second IFE, designed to “test and train the organization’s on-site inspection capabilities in an all-encompassing way.”³⁰⁷ The first such exercise was conducted in Kazakhstan in 2008.

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. Please 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 Action 7.

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. While in the previous year, Canada had to remove the text on establishing a Group of Governmental Experts (GGE) from its draft resolution, in 2012, a modified proposal received much wider support. The adopted resolution requests 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 requests the Secretary-General to establish a 25-member GGE to “make recommendations on possible elements” of a treaty banning the production

³⁰⁷ “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

of fissile material for nuclear weapons. The Group is to meet for two, two-week sessions in Geneva in 2014 and 2015.³⁰⁸

For other related developments at the UNGA First Committee in 2012, see Actions 6.

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

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

China

No

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

France

No

France has not declared its stocks of fissile material no longer required for military purposes. The IPFM estimates that the “current stock of military-related weapon-grade HEU” in France is between 20 and 32 metric tons, while the stockpile of weapon-grade plutonium is 5-7 metric tons.³⁰⁹

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.³¹⁰ (See Indicator 16.3) The former military HEU that Russia is blending down is not under IAEA safeguards.

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.³¹¹ The United Kingdom has previously declared 4.4 metric tons of plutonium in excess of defense purposes.³¹² No additions have been made to this inventory during the reporting period. In

³⁰⁸ “Treaty Banning the Production of Fissile Material for Nuclear Weapons or Other Nuclear Explosive Devices,” Resolution adopted by the First Committee of the UN General Assembly, A/C.1/67/L.41, www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/resolutions/L41.pdf

³⁰⁹ “Countries: France,” International Panel on Fissile Materials, <http://fissilematerials.org/countries/france.html>

³¹⁰ 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/>

³¹¹ Ibid.

³¹² UK Strategic Defence Review, 1998, Fissile material management.

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.³¹³ None of this material was 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.³¹⁴ No additional material was declared during the reporting period. According to the US reporting under INFCIRC/549, as of December 31, 2011, 4.6 metric tons of this excess plutonium were held in mixed oxide (MOX) fuel or “other fabricated products,” 7.8 metric tons were held in spent fuel, and 4.4 metric tons had been disposed to waste.³¹⁵ Compared to previous year’s reporting, the amount of excess plutonium “held elsewhere” (presumably in pits and warheads) went down by 4.6 metric tons.

According to the NNSA website, a total of 209 metric tons of HEU have been declared as excess and designated for downblending (see Indicator 16.3). 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 and did not place it under the IAEA safeguards. As of 2009, the only facilities under IAEA safeguards in China were the Qinshan Nuclear Power Plant, the HTR-10, and the Hanzhong Enrichment Plant.³¹⁶ 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.³¹⁷

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.³¹⁸ There does not appear to have been a change in this policy during the reporting period (by March 2012).

³¹³ “Historic Accounting for UK Defence Highly Enriched Uranium,” Report by the Ministry of Defence, March 2006.

³¹⁴ “Annual Figures for Holding of Civil Unirradiated Plutonium,” Communication from the United States of America, September 20, 2011, INFCIRC/549/Add.6/14.

³¹⁵ Annual Figures for Holding of Civil Unirradiated Plutonium,” Communication from the United States of America, October 29, 2012, INFCIRC/549/Add.6/15.

³¹⁶ Facilities under Agency Safeguards or Containing Safeguarded Material on 31 December 2009, IAEA Annual Report, www.iaea.org/Publications/Reports/Anrep2009/table_a25.pdf

³¹⁷ “Global Fissile Material Report 2011,” IPFM, p. 32.

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.³¹⁹

Russia

No

“Megatons to Megawatts,” a US-Russian surplus HEU disposition program, is not subject to IAEA safeguards, but is monitored bilaterally. Safeguards are also not applied to plutonium declared in excess of defense needs, but Russia, the United States, and the IAEA are currently working out a verification arrangement for the Plutonium Management and Disposition Program (see Indicator 16.3. and Action 17).

United States

Yes, partially

The United States has been placing material declared in excess of military programs under IAEA safeguards since 1993.³²⁰ By 1998, the United States had placed 12 tons of fissile material under voluntary IAEA safeguards.³²¹ In 1999-2006, the United States downblended 50 metric tons of its surplus HEU, with the downblending facility being under the IAEA safeguards.³²²

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.³²³ Some of the surplus plutonium is stored at this facility. According to the 2010 IPFM report, a lot of the plutonium declared in excess “is still in warheads or in pits” stored at a site where warhead assembly and disassembly takes place.³²⁴ This material, therefore, cannot be under the IAEA safeguards at this point.

³¹⁸ UK Strategic Defence Review, 1998.

³¹⁹House 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

³²⁰ 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, www.ntip.navy.mil/iaea/index.shtml

³²¹ “Ending the Production of Fissile Material for Nuclear Weapons,” Institute for Science and International Security, <http://isis-online.org/section-7/>.

³²² “Management of High Enriched Uranium for Peaceful Purposes: Status and Trends,” International Atomic Energy Agency, IAEA-TECDOC-1452, June 2005, p. 18.

³²³ 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

³²⁴ “Global Fissile Material Report 2010,” IPFM, p. 37.

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

China

No

There are no known material disposition programs implemented by China.

France

No

There are no known material disposition programs implemented by France.

Russia

Yes

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

Under the Protocol to the US-Russian Agreement on the Management and Disposition of Plutonium Designated as No Longer Required for Defense Purposes and Related Cooperation (PMDA) signed in April 2010, “the Russian Federation will dispose of 34 tons of excess weapons-grade plutonium through irradiation in a BN-800 reactor.”³²⁵ Amendment of 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.”³²⁶ The disposition of material has not commenced yet and is planned to start in 2018. Russia, the United States, and the IAEA have been working out an arrangement for the verification of PMDA by the Agency, though progress appears to have stalled (see Action 17).

Under the US-Russia “Megatons to Megawatts” program, Russia committed to convert 500 tons of HEU taken out of dismantled warheads into LEU that is then sold to USEC (US Enrichment Corporation). By the time of the 2010 NPT RevCon, Russia had downblended “over 350 tons” of HEU, according to the Russian report to the Conference.³²⁷ As of early 2013, Russia has downblended a total of 472.5 metric tons.³²⁸ The program is not subject to verification by the IAEA. “Megatons to Megawatts” is scheduled for completion in 2013, and Russia has not announced any plans for future such programs.³²⁹

According to IPFM, another program, the Material Conversion and Consolidation project, plans to downblend 2 metric tons of surplus Russian HEU in 2013, in addition to 14.8 metric tons already blended down.³³⁰

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.³³¹

³²⁵ Para 104, 2010 NPT RevCon National Report, Russian Federation.

³²⁶ “Global Fissile Material Report 2011,” IPFM, p. 17.

³²⁷ Para 103, 2010 NPT RevCon National Report.

³²⁸ For program description and status, see USEC website, www.usec.com/russian-contracts/megatons-megawatts

³²⁹ “Global Fissile Material Report 2011,” IPFM, p. 8

³³⁰ Countries: Russia, IPFM Blog, <http://fissilematerials.org/countries/russia.html>

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.³³² 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.³³³

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).³³⁴ 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, while 34 metric tons would be used for production of MOX fuel, irradiated in civilian reactors and disposed of as spent fuel.³³⁵ A MOX fuel production facility is under construction in Savannah River, South Carolina. There are disagreements, however, among experts in the United States about the safety and security implications and cost of this project.³³⁶ In the meantime, NNSA has been converting the plutonium taken out of warhead pits into plutonium oxide, as a feedstock for the future MOX production. In 2011-12, NNSA produced over 400 kg of plutonium oxide, exceeding its target production in 2012.³³⁷

The United States is also downblending HEU taken out of military stockpiles. According to the National Nuclear Security Administration, a total of 209 metric tons of HEU has been declared surplus to defense needs and designated for downblending. There are four ongoing projects within the framework of surplus HEU disposition (the fifth completed in 2006). NNSA's website indicates that 119 metric tons have been converted to LEU, though this number has not been updated at least since early 2012.³³⁸ It is not clear how much of this material was converted since May 2010.

³³¹ "Global Fissile Material Report 2011," IPFM, p. 3

³³² "Plutonium: Credible Options Analysis (Gate A0)," UK Nuclear Decommissioning Authority, 2010, www.nda.gov.uk/documents/upload/Plutonium-Credible-Options-Analysis-redacted-2010.pdf. "Plutonium Strategy: Current Position Paper," UK Nuclear Decommissioning Authority, February 2011, p. 6, www.nda.gov.uk/documents/upload/NDA-Plutonium-Current-Position-February-2011.pdf

³³³ "Has Prism Cracked the Plutonium Problem?" *Professional Engineering*, July 31, 2012, <http://profeng.com/cover-story/has-prism-cracked-the-plutonium-problem>

³³⁴ "Global Fissile Material Report 2011," IPFM, p. 10.

³³⁵ IAEA INFCIRC/549/Add.6/13, December 15, 2010, www.iaea.org/Publications/Documents/Infcircs/2010/infcirc549a6-13.pdf

³³⁶ "Experts Differ over U.S. MOX Fuel Plan," Global Security Newswire, March 30, 2011, www.nti.org/gsn/article/experts-differ-over-us-mox-fuel-plan/

³³⁷ "NNSA Completes Milestones for Initial Steps in Plutonium Disposition," NNSA press release, November 16, 2012.

³³⁸ "Surplus US Highly Enriched Uranium (HEU) Disposition," National Nuclear Security Administration website, <http://nnsa.energy.gov/aboutus/ourprograms/nonproliferation/programoffices/fissilematerialsdisposition/surplusheu/dispositio>

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.³³⁹ A total of 17.4 metric tons of surplus HEU (out of the overall 209 metric tons) was designated for the AFS, and its downblending was due to be completed in 2012. No update on the status of this material was found at the time of writing.

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 (see Indicator 16.1.).

Action 17: In the context of action 16, all States are encouraged to support the development of appropriate legally binding verification arrangements, within the context of IAEA, to ensure the irreversible removal of fissile material designated by each nuclear-weapon State as no longer required for military purposes.

Indicator 17.1. Development of relevant verification measures and agreements is taking place, with IAEA participation

Yes, partial progress

In the context of the Plutonium Management and Disposition Agreement (PMDA) between the United States and Russia (see Action 16), the two states have invited the IAEA to verify the disposition of plutonium declared in excess of military needs.³⁴⁰ 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-

³³⁹ “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/doennaafs81811>

³⁴⁰ Please see IAEA INFCIRC/806, September 16, 2010, www.iaea.org/Publications/Documents/Infcircs/2010/infcirc806.pdf

binding verification agreements in 2011.”³⁴¹ 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.”³⁴² 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.³⁴³ The verification arrangement, previously expected to be presented to the Board of Governors in 2012, was not completed during the reporting period.

No multilateral arrangements, involving other NWS and NNWS, are being developed in the context of the IAEA.

Action 18: All States that have not yet done so are encouraged to initiate a process towards the dismantling or conversion for peaceful uses of facilities for the production of fissile material for use in nuclear weapons or other nuclear explosive devices.

Monitoring the implementation of this action and assessing what constitutes progress (short of complete dismantlement of facilities) is not entirely straightforward. The only clear-cut case is France, which, by the time of the 2010 Review Conference, had already dismantled all its facilities for weapons material production. None of the other NWS is known to be producing fissile material for weapons purposes, so presumably, all of their operational facilities can be considered as converted to non-weapons use already. (One possible exception might be China, as it has not officially declared a moratorium on the production of fissile material for weapons purposes.)

Dismantlement of facilities, on the other hand, is a lengthy, complex and expensive project. Initiation of “a process towards dismantling” seems to cover a wide range of actions, from announcement of the intent to, eventually, dismantle a facility, through to the actual shut down and decommissioning of the facility. Physical dismantlement of the facilities also becomes more of an environmental remediation, rather than disarmament, project. From this perspective, in most cases, the process “towards the dismantling” had been initiated prior to the 2010 Review Conference, through the shutdown of plutonium producing reactors and reprocessing plants, or decisions on shut down and decommissioning.³⁴⁴

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

³⁴¹ Ibid.

³⁴² Plutonium Management and Disposition Agreement (PMDA) synopsis, US Defense Threat Reduction Agency, <http://dtirp.dtra.mil/tic/synopses/pmda.aspx>

³⁴³ Remarks made under Chatham House rules.

³⁴⁴ Note, however, that shut-down facilities can remain shut down but not dismantled for many years.

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 1989.³⁴⁵ 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.³⁴⁶ However, China has not officially announced a moratorium on producing fissile material for weapons, so it is unclear if it plans to resume production at former or new facilities.

France

Dismantlement completed

France stopped producing plutonium for nuclear weapons in 1992 and HEU in 1996.³⁴⁷ France has announced the dismantlement of its Pierrelatte (HEU) and Marcoule (plutonium) facilities, and even organized tours for diplomats and media to visit the sites in 2008 and 2009.³⁴⁸

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 2010.³⁴⁹ 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.”³⁵⁰ 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.³⁵¹ The other Capenhurst enrichment plant is civilian and operated by the private firm, URENCO.

Russia

Yes: New decommissioning decisions

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.³⁵² 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

³⁴⁵ “Global Fissile Material Report 2010,” IPFM, p. 97.

³⁴⁶ 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.cncn.com.cn/2006-10-17/000047102.html (in Chinese). Other sites are co-located with civilian nuclear facilities.

³⁴⁷ Countries: France, IPFM, <http://fissilematerials.org/countries/france.html>

³⁴⁸ “Stopping Fissile Material Production for Nuclear Weapons,” France NPT website, www.francetnp.fr/?article92

³⁴⁹ “Global Fissile Material Report 2010,” p.83; exact dates vary for different reactors.

³⁵⁰ Ibid. For detailed decommissioning plans see the “Lifetime Plans” for Windscale, Calder Hall, and Chapelcross, all available at www.nda.gov.uk

³⁵¹ See Capenhurst, UK National Decommissioning Authority, www.nda.gov.uk/ukinventory/sites/capenhurst/

³⁵² SIPRI 2011 Yearbook, p. 358, www.sipri.org/yearbook/2011/files/SIPRIYB1107-07A.pdf

Russia are subject to bilateral monitoring under the US-Russia Plutonium Production Agreement (PPRA).³⁵³ Under PPRA, the two governments agreed that the reactors that had been shut down would not be restarted. In May 2012, Russia's state nuclear corporation, Rosatom, approved decommissioning projects for four of the reactors. Decommissioning is reportedly to be completed by 2015, but it is not clear if project implementation has started yet.³⁵⁴

Two reprocessing plants in Russia, in Seversk and Zheleznogorsk, are also designated for shutdown,³⁵⁵ though no timelines were available from open sources. The Zheleznogorsk reprocessing plant began reprocessing the last batch of spent fuel from the ADE-2 reactor in March 2012.³⁵⁶

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 is ongoing, and the Department of Energy (DOE) reportedly plans to build a K-25 History Center at the site.³⁵⁷ In January 2013, the project reached a milestone with the demolition of the facility's North Tower, and it is expected that it will be completed in 2014.³⁵⁸ 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.³⁵⁹ 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.³⁶⁰ 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.³⁶¹ However, the official Hanford website indicates that both K East and K West reactors are being "cocooned" (partially taken apart with their cores encased to prevent the leakage of radiation)—one by 2015, and the other to follow. The work on the K East Reactor was reported as 60 percent complete in February 2013, while the cocooning of the K West Reactor cannot be undertaken until radioactive sludge is removed from its cooling basin and the

³⁵³ Plutonium Production Reactors Agreement Fact Sheet, NNSA, September 2011.

³⁵⁴ "Уран-графитовые реакторы СКХ выведут из эксплуатации до 2015 года" ("Graphite Reactors in Seversk to Be Decommissioned by 2015"), Rosatom blogs, June 5, 2012, <http://blogi.rosatom.ru/blograo/2012/06/uran-grafitovye-reaktory-sxk-vyvedut-iz-ekspluatacii-do-2015-goda/>. It was later reported that the bidding to hire an implementing contractor for the project had failed.

³⁵⁵ Appendix 3, "Global Fissile Material Report 2011," IPFM, p. 33.

³⁵⁶ Pavel Podvig, "Russia to Complete Separation of Weapon-Grade Plutonium," IPFM blog, March 6, 2012.

³⁵⁷ "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

³⁵⁸ "Oak Ridge EM Program Completes K-25 North End Demolition," US Department of Energy press release, January 23, 2013, <http://energy.gov/em/articles/oak-ridge-em-program-completes-k-25-north-end-demolition>

³⁵⁹ "DOE Awards Clean Up Contract for Portsmouth Decontamination and Decommissioning," US Department of Energy press release, August 13, 2010.

³⁶⁰ "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/savrivscareas.html

³⁶¹ "Energy Department Wants to Remove Hanford Reactor Rather Than Cocooning It," Associated Press, October 19, 2010.

basin itself demolished.³⁶² The cocooning of Reactor N was announced complete in June 2012, with the placement of the reactor in interim safe storage for about 75 years.³⁶³ Five other reactors were cocooned by 2005. One more reactor at Hanford was turned into a museum.³⁶⁴

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 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.³⁶⁵ The action item was thus meant to encourage this and possible other collaborative projects on nuclear disarmament verification.

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.³⁶⁶ 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.³⁶⁷ 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.³⁶⁸ In March 2013, the UK Permanent Representative to the CD stated that the two countries would continue to share information on the project.³⁶⁹

³⁶² “K East Reactor to Be in Surveillance Mode to Await Cocooning,” *Tri-City Herald*, February 14, 2013, www.tricityherald.com/2013/02/14/2274804/k-east-reactor-to-be-in-surveillance.html

³⁶³ “N Reactor Placed in Interim Safe Storage: Largest Hanford Reactor Cooning Project Now Complete,” US Department of Energy, June 14, 2012, <http://energy.gov/em/articles/n-reactor-placed-interim-safe-storage-largest-hanford-reactor>

³⁶⁴ “Hanford: Projects and Facilities,” U.S. Department of Energy, www.hanford.gov/page.cfm/ProjectsFacilities

³⁶⁵ 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,

³⁶⁶ “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

³⁶⁷ “UK Norway Workshop: Questions Answered,” United Kingdom-Norway Initiative, <https://registration.livegroup.co.uk/ukniworkshop/FAQ/#faq10>

³⁶⁸ “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>

³⁶⁹ 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

The NWS continued the discussion of verification issues as part of the P5 consultations. In June 2012, the United States and United Kingdom briefed other NWS on their collaborative work on warhead dismantlement verification. 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.³⁷⁰ NNSA reported that the US-UK exercise experience shows that “countries can successfully collaborate on sensitive technical disarmament and verification topics,” although various technical, legal, and classification challenges need to be resolved for effective implementation of a dismantlement monitoring regime.³⁷¹

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

Five states—Australia, Canada, Iran, New Zealand, and the Republic of Korea—submitted national reports ahead of the 2012 NPT PrepCom. This represents about 3 percent of the NPT membership. Australia’s and Canada’s reports were detailed action by action, while other reports were more general.

Action 21: As a confidence-building measure, all the nuclear-weapon states are encouraged to agree as soon as possible on a standard reporting form and to determine appropriate reporting intervals for the purpose of voluntarily providing standard information without prejudice to national security. The Secretary-General of the United Nations is invited to establish a publicly accessible repository, which shall include the information provided by the nuclear-weapon states.

Indicator 21.1. Nuclear weapons states agree on a standard form and establish reporting intervals

No visible progress

Though this was discussed at the P5 meetings in both Paris and Washington, no standard form or reporting intervals have been established. NWS have indicated that they are discussing a standard form and are developing common terminology in this regard, but it appears that the reporting will not start before 2014.

The Non-Proliferation and Disarmament Initiative (NPDI), a ten-nation group established by Australia and Japan, proposed a draft reporting form to the NWS in fall 2010 and subsequently

³⁷⁰ 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.

³⁷¹ *Ibid.*

presented it in a working paper at the 2012 NPT PrepCom.³⁷² The nuclear weapon states declined to use the proposed form.

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

No progress

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.³⁷³ It is empty; none of the NWS has submitted any reports.

Action 22: All states are encouraged to implement the recommendations contained in the report of the Secretary-General of the United Nations (A/57/124) regarding the United Nations study on disarmament and non-proliferation education, in order to advance the goals of the treaty in support of achieving a world without nuclear weapons.

The UN General Assembly, in 2002 adopted 34 recommendations of the UN Experts Group Study on Disarmament and Nonproliferation (DNP) Education,³⁷⁴ 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.³⁷⁵

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.³⁷⁶ Five UNSG reports on DNP education have been released to date, the most recent in July 2012. The number of reports submitted by states (indicator 22.1), as well as the level of support for the UN General Assembly resolution on DNP education (indicator 22.2), provides the basis for monitoring progress made in the implementation of NPT Action Item 22. It is beyond 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.

³⁷² See Statement by H.E. Mr. Mari Amano, head of Japan's delegation to the CD, at the UN First Committee, October 14, 2011, www.disarm.emb-japan.go.jp/statements/Statement/141011UNGA.htm, and "Transparency of Nuclear Weapons: the Non-Proliferation and Disarmament Initiative," Working Paper, NPT/CONF.2015/PC.I/WP.12, April 20, 2012.

³⁷³ Available at www.un.org/disarmament/WMD/Nuclear/Repository/.

³⁷⁴ 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. Please see A/RES/57/60. For recommendations, see A/57/124.

³⁷⁵ Recommendation 32 of the UN Study also requests the UNSG to prepare a report biennially. See A/RES/57/60 and A/57/124

³⁷⁶ 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.

Indicator 22.1. States submit reports to the UN on the implementation of A/57/124

Limited Progress

While states generally support the importance of disarmament and nonproliferation education,³⁷⁷ reporting has been limited. The latest UN Secretary-General report on DNP education was issued in July 2012 and registered an uptick in the number of member states submitting information. In 2012, 10 member states reported to the UN on their disarmament and nonproliferation education activities, the highest number so far.³⁷⁸ While this indicates certain progress, compared to just six reports in 2010, the overall level of reporting remains low.

Since the adoption of the UNGA Resolution in 2002, only 38 reports have been submitted to the United Nations by a total of 27 states (see table below). Both Japan and Mexico have submitted four 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 is the only nuclear weapon state to report on its implementation of the UN study on disarmament and nonproliferation education.³⁷⁹ While it did not submit a contribution for the UNSG report, another state (Canada), included information on DNP education and implementation of Action 22 in its report to the 2012 NPT PrepCom.³⁸⁰ Remarkably, several countries that do implement and finance projects to promote nuclear disarmament and nonproliferation education, including Norway, Sweden, and the United States, have not reported at all.

At the 2012 PrepCom in Vienna, several states and groups addressed the issue of disarmament and nonproliferation education. Austria and Japan submitted a joint working paper, outlining some of the activities they had undertaken and that could serve as “models” for DNP education.³⁸¹ The NPDI also submitted a working paper in support of DNP education, highlighting in particular projects and initiatives of four member states—Canada, Japan, the Netherlands, and Poland. Only three of the NPDI members, however, submitted contributions for the Secretary-General’s report (Germany, Japan, and Mexico).

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. Japan, in particular, has been 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.”³⁸² In August 2012, Japan, together with the United Nations University, organized the Global Forum on Disarmament and

³⁷⁷ 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.

³⁷⁸ Contributions to the Report of the Secretary-General on Disarmament and Non-Proliferation Education Received by the Office for Disarmament Affairs, 2012 submissions, www.un.org/disarmament/education/2002UNStudy/2012SGreportcontributions.shtml

³⁷⁹ Russia reported in 2004.

³⁸⁰ See “Implementation of the Treaty on the Non-Proliferation of Nuclear Weapons,” Report submitted by Canada, NPT/CONF.2015/PC.I/10, May 3, 2012.

³⁸¹ “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.

³⁸² The details of Japan’s activities can be found in its 2010 reply, www.un.org/disarmament/education/docs/SGReport65contributions/MemberStates/Japan.pdf

Non-Proliferation Education, which brought together representatives of 19 states, international organizations, academia, and civil society. The forum adopted a declaration reaffirming support for disarmament and nonproliferation education and expressing commitment to further promote DNP education at international fora and among general public.³⁸³

Nevertheless, the findings on the implementation of the recommendations of the UN Study on DNP education reflect limited progress made in the implementation of Action Item 22.

Overview of report submissions³⁸⁴

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
TOTAL		27 States	38 Submissions

* Nuclear weapon states

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.³⁸⁵ To date, there have been five General Assembly resolutions on DNP education, and they do not differ significantly in substance. All five resolutions were adopted without a vote in both the First Committee and the General Assembly, reflecting general support by states for disarmament and nonproliferation education. The number of state sponsors and co-sponsors of the resolution has increased over the years: the resolution adopted in 2010 (A/RES/65/77) had almost twice as many sponsors (44 states) as the first DNP education resolution adopted in 2002 (24 states). The number of state sponsors and co-sponsors of the resolution increased further in 2012 and reached 52.

³⁸³ See “Global Forum in Nagasaki Explore Role of Education for Disarmament and Non-Proliferation,” United Nations University Institute for Stability and Peace, August 10-11, 2012, <http://isp.unu.edu/news/2012/global-forum-in-nagasaki.html>

³⁸⁴ Turkmenistan and Germany were not originally included in the UNSG reports in 2010 and 2012, respectively. Added by Addendum 1.

³⁸⁵ The years and symbols of the DNP resolutions are as follows: 2010 (A/RES/65/77); 2008 (A/RES/63/70); 2006 (A/RES/61/73); 2004 (A/RES/59/93); 2002 (A/RES/57/60).

Mexico has been the lead sponsor introducing all of the draft DNP resolutions on behalf of the sponsors. Among the nuclear weapon states, the United Kingdom sponsored and co-sponsored the 2012, 2010, and 2008 resolutions, while France was a co-sponsor of the 2004 resolution. In 2012, the United States, too, for the first time co-sponsored the DNP education resolution. The full list of states sponsors and co-sponsors of the resolution on disarmament and nonproliferation education adopted in 2010 and 2012 is presented below:

2012 UNGA Resolution: [A/RES/67/47](#)³⁸⁶

Sponsors: Argentina, Australia, Belgium, Brazil, Canada, Chile, Costa Rica, Dominican Republic, El Salvador, Germany, Guatemala, Hungary, India, Indonesia, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Serbia, Trinidad and Tobago, Turkey, United Kingdom of Great Britain and Northern Ireland, and Uruguay.

Co-sponsors: Albania, Austria, Denmark, Ecuador, Egypt, Greece, Honduras, Ireland, Jamaica, Latvia, the former Yugoslav Republic of Macedonia, Montenegro, Portugal, South Africa, Spain, Sweden, Ukraine, and the United States.

2010 UNGA Resolution: [A/RES/65/77](#)³⁸⁷

Sponsors: Australia, Brazil, Costa Rica, Dominican Republic, Egypt, El Salvador, Guatemala, Hungary, Japan, Mexico, New Zealand, Nicaragua, Norway, Panama, Paraguay, Peru, Poland, South Africa, Spain, Sweden, and Uruguay.

Co-sponsors: Argentina, Austria, Belgium, Canada, Chile, Ecuador, Estonia, Germany, Greece, Honduras, India, Indonesia, Italy, Luxembourg, Montenegro, Netherlands, Nigeria, Pakistan, Philippines, Serbia, Trinidad and Tobago, Turkey, and United Kingdom of Great Britain and Northern Ireland.

As noted above, however, in spite of the broad support for the concept of disarmament and nonproliferation education, and associated resolutions, state reporting on relevant activities remains very limited.

The Middle East, particularly implementation of the 1995 Resolution on the Middle East

The last part of the Conclusions and Recommendations adopted in 2010 addressed regional issues, particularly the Middle East and implementation of the 1995 resolution on the establishment of a zone free of nuclear weapons and all other WMD in that region. The 1995 resolution was co-sponsored by the three NPT depositaries—Russia, the United Kingdom, and the United States—and adopted as part of the package of decisions to extend the treaty indefinitely. The resolution calls on states in the Middle East to take practical steps towards establishing the WMD-free zone in the 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.³⁸⁸ There had been no progress on this

³⁸⁶ Information courtesy of the UN Office for Disarmament Affairs.

³⁸⁷ Voting record from p.157, UN Disarmament Yearbook, 2010, Part I, www.un.org/disarmament/HomePage/ODAPublications/Yearbook/2010/DY2010-Part1-Online.pdf

³⁸⁸ “Resolution on the Middle East,” NPT/CONF.1995/32 (Part I), www.un.org/disarmament/WMD/Nuclear/1995-NPT/pdf/Resolution_MiddleEast.pdf; see also

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

After months of uncertainty, in late November 2012, NPT depositary states and co-sponsors of the 1995 Middle East resolution announced the postponement of the Middle East conference mandated by the 2010 RevCon. 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. Russia's statement indicated the need to hold the conference by April 2013 (that is, before the NPT PrepCom meeting), while the United Kingdom expressed support for convening the conference "as soon as possible." The United States discussed current obstacles and what it sees as appropriate conditions for a successful conference, but did not make any reference to a possible timing.³⁸⁹ As of March 2013, no new dates have been set for the conference on the Middle East zone free of nuclear weapons and all other WMD.

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 on November 6, 2012, at the EU seminar on the Middle East WMD-free zone in Brussels, while Israel never confirmed attendance (though it has not unequivocally refused to participate, either). As a non-party to the NPT, Israel has argued that it is not bound by the decisions of the review conferences and does not want to be involved in a process mandated by the NPT. Israel also believes that resolution of regional security issues should take precedence over the establishment of a WMD-free zone, while the Arab states emphasize regional nuclear disarmament.³⁹⁰

Not surprisingly, Arab states' reaction to the postponement of the conference has been negative, and at the time of this writing, the League of Arab States has not yet decided on whether its members would attend the 2013 NPT PrepCom and how they would participate in the rest of the

³⁸⁹ "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.

³⁹⁰ 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/

review cycle. The League's Ministerial meeting on March 6, 2013, decided to defer the decision to the Summit, scheduled to take place on March 26-27, 2013. In the meantime, the League instructed the Arab group in Vienna to request the placement of "Israeli Nuclear Capabilities" item on the agenda of the 2013 IAEA General Conference.³⁹¹ This issue, especially when a resolution was tabled under this agenda item, has proved highly controversial in the past, putting the Arab states at odds with the Western group and some of the members of the Non-Aligned Movement.³⁹²

(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 [...]

(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.

It took well over a year for the NPT depositaries and states in the Middle East to agree on the selection of the facilitator and the host country, with the delay causing frustration among the Arab states and concerns about the limited amount of time left for preparations for the 2012 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.

At the 2012 PrepCom meeting in Vienna, the facilitator reported on his work, informing NPT member states that he had held over 100 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 2012 conference, as well as substantive issues regarding the establishment of the zone. According to the facilitator's report, all states in the region confirmed their commitment to establishing the zone free of nuclear weapons and all other WMD, yet disagreed on the process through which this should be accomplished.³⁹³ It had by then proved impossible to agree on the modality or agenda of the conference and secure the participation of all relevant states.

The facilitator will continue to report to the sessions of the Preparatory Committee of the current cycle and to the 2015 Review Conference.

³⁹¹ Decisions of the Ministerial Meeting (139) of the Council of the League of Arab States, Cairo, March 2013.

³⁹² For more on the INC, see "Topic: Middle East Issues," Factsheet #2, CNS and VCDNP, September 2011, http://cns.miis.edu/stories/110914_iaea_factsheets/cns_iaea_factsheet_middle_east.pdf

³⁹³ 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.

(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. The IAEA Director General was requested to convene such a forum in 2000, but only in 2011 did it become possible to agree on the agenda. The forum was open to the IAEA member states and select intergovernmental organizations such as EURATOM, Brazil-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC), and Organization for the Prohibition of Nuclear Weapons in Latin America (OPANAL). Representatives of existing NWFZs and relevant regional organizations shared with the Middle Eastern states their experiences with establishing the zones and implementing their provisions, and answered questions. While the participants found the forum useful, Arab states underlined that they did not see it as any kind of substitute for the Middle East conference mandated by the 2010 RevCon.³⁹⁴ Iran did not attend the forum.

(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.³⁹⁵ The second seminar took place on November 5-6, 2012 in Brussels, and its agenda covered confidence-building measures in the WMD

³⁹⁴ For more information and Chair’s summary, please see Clinton Cowan, “Forum on Nuclear-Weapons-Free Zone in the Middle East Closes,” IAEA, November 22, 2011, www.iaea.org/newscenter/news/2011/nwfz-forum-closes.html; also, Chen Kane and Gaukhar Mukhatzhanova, “IAEA-Sponsored Forum on Nuclear-Weapon-Free Zone in the Middle East: Q&A,” CNS, November 2011, http://cns.miis.edu/stories/pdfs/111117_qna_iaea_me_nwfz_forum.pdf.

³⁹⁵ 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

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.³⁹⁶

Dissatisfied with the progress of preparations for the 2012 conference and concerned that it may be postponed and canceled, some of the Arab states were anxious to emphasize that these EU seminars are not a substitute for the conference itself. Egypt, therefore, did not send any acting officials to participate in the November 2012 seminar. Iran, however, took the opportunity at the 2012 gathering in Brussels to announce its decision to attend the Middle East conference.

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.

³⁹⁶ 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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