

THE

NPT ACTION PLAN

MONITORING REPORT



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Reaching Critical Will

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The report is aimed at providing a platform for discussion about the degree of implementation and operationalization of the Nuclear Non-Proliferation Treaty (NPT) Action Plan adopted during the 2010 NPT Review Conference. The first edition of this publication was published in April 2012 in preparation for the NPT Preparatory Committee in Vienna, Austria. This second edition is an updated version with progress until February 2013.

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IMPLEMENTING THE ACTION PLAN – PROGRESS SO FAR

Beatrice Fihn | Reaching Critical Will

Introduction

Almost three years have passed since the 2010 nuclear Non-Proliferation Treaty (NPT) Review Conference adopted its outcome document and a comprehensive 64-point action plan.

The 2013 edition of the *2010 NPT Action Plan Monitoring Report* is an effort to measure the progress made towards implementing the outcome document and its action plan of three pillars: nuclear disarmament; nuclear non-proliferation; and the peaceful uses of nuclear energy.

We are now more than halfway through to the next review conference, with only two years left until 2015. It is therefore past time to move on from the sense of accomplishment of adopting the action plan and to focus on making more progress on its implementation. It was indeed a welcome success in May 2010, but an unfulfilled piece of paper will not contribute to the implementation of the Treaty or its goals and objectives.

Indeed, the real value of the action plan lies in its implementation. The NPT has seen many concrete agreements over the decades, such as the 1995 resolution on the Middle East and the 13 steps from 2000. However, as neither of these agreements have been implemented, full implementation of the action plan is crucial for the credibility of the treaty.

The 2010 action plan cannot be considered a success until it is implemented. It should not be a plan that we “strive” to implement at some point in the distant future. The action plan is not an end goal in itself, but a list of actions that states parties wanted to be achieved by 2015. There are only two years left, thus it is high time to not only progress more on implementation, but also start looking forward at concrete options for the next achievements at the coming review conference in 2015. Further steps, new actions, and more robust efforts need to be agreed upon in 2015 in order to work for full implementation of the Treaty.

Method

This publication looks at current progress in the implementation of the 2010 NPT action plan, from May 2010 until February 2013.

It aims to provide factual and clear information on the status of the implementation of all 64 actions and to give the reader an overview of what is left to be done until 2015. The research has been carried out through review of open source information. It is not a full technical investigation of all related facts, but is an attempt to provide an overview of states’ compliance with the NPT action plan and to capture the most significant developments since May 2010.

The research has been carried out within the limits of available resources, such as time, publicly available information, and limited responses from states to our requests for information. It is important to note that the action plan is a political document and the language is a carefully crafted compromise. Because the plan includes deliberately vague commitments such as “encourage,” “facilitate,” and “continue efforts,” it has been difficult to measure and quantify progress. In addition, the discrepancies in interpretation of the NPT remain unresolved in this action plan, opening it up for significant differences of opinion on what the actions specifically require. It has been beyond the scope of this project to make a legal analysis of such interpretations, which left us to focus on facts and general trends in order to make our assessment.

One of the biggest challenges we've faced in monitoring the action plan is both the lack of clear benchmarks against which to measure progress and the absence of any formal institutional mechanism to carry out the monitoring and to report back to the next preparatory committee and review conference in an organised way.

In order to assess implementation, we have used a system of "traffic lights" signalling red, yellow, and green. The red traffic light indicates that to date, no concrete progress has been made in order to implement the action. The yellow light indicates that while some efforts have been detected, additional progress needs to be made in order to fully implement the action. The green light shows that states are making progress and are currently implementing the action.

Implementation of the action plan

The action plan is divided into three parts: nuclear disarmament, nuclear non-proliferation, and peaceful uses of nuclear energy. We've examined each action item under each "pillar".

Nuclear disarmament

Progress on the 22 action plan items dealing with nuclear disarmament has been the most eagerly anticipated by non-nuclear weapon states and civil society but the implementation of these actions has proved to be the most disappointing.

The implementation of this group of action items is not advancing adequately, which is particularly disappointing for the many non-nuclear weapon states and civil society organizations who felt that the items dealing with disarmament were not robust enough to begin with. This is particularly true given that there has been little progress in this area for a decade since the formulation of the so-called "13 Practical Steps" from the 2000 NPT Review Conference final document, which States parties have failed to properly implement.

Some of the items in the action plan are very specific, such as entry into force of the Comprehensive nuclear Test Ban Treaty (CTBT), and starting negotiations in the Conference on Disarmament on a treaty to ban the production of fissile materials (FMCT). However, others are vague, open for interpretation, and do not easily lend themselves to measurement. This is particularly the case with action 5, which merely calls for "moving towards an overall reduction in the global stockpile of all types of nuclear weapons," without providing any benchmarks to measure progress. This opens the opportunity for the five nuclear weapon states (NWS) to claim that they have made progress while having to do very little in concrete terms. Adequate reporting in 2014 by the NWS will therefore be crucial to be able to measure any progress on this key action.

Ongoing reductions by the United States and Russia under the New Strategic Arms Reduction Treaty and the announcement of unilateral reductions by the United Kingdom are welcome. In addition, a recent announcement from US President Obama's administration that the US is interested in working together with Russia on further reductions is an additional positive signal.

But while three of the five NWS have made moves to slightly reduce their arsenals, overall progress on disarmament has been slow. At the same time, all of the NWS have plans for or are engaged in modernizing their nuclear weapons and delivery systems and no progress on reducing the role of nuclear weapons or any steps towards lower alert levels have been taken. Thus, as per this report's "traffic light" monitoring method, on the 22 action points dealing with disarmament, there are eleven red lights (no progress); six yellow lights (limited movement); and only five green lights (forward movement).

The main problem areas are lack of progress on transparency and reporting, ongoing modernization programmes, and failure to achieve the concrete actions such as entry into force of the CTBT and starting FMCT negotiations and negative security assurance discussions in the Conference on Disarmament.

Reporting

While some NWS have been forthcoming with sharing exact numbers and information about stockpiles, others have released no information. No systematic and consistent reporting exists. NWS are reported to have discussed a standard reporting form in meetings amongst themselves, and the Non-Proliferation and Disarmament Initiative (NPDI) attempted to facilitate this process by creating a concrete proposal. However, there have been no official comments from the NWS on the NPDI proposal and no proposal has been put forward by the NWS. The NWS must agree on and present a standard reporting form in order to fulfil this action.

Modernization

According to Reaching Critical Will's recent study *Assuring Destruction Forever*, "smaller but still potentially world-destroying nuclear arsenals have been normalized, and are an integral part of the political and economic architecture of the global system as it now exists."¹ All of the nuclear weapon possessors combined are expected to spend approximately one trillion USD on nuclear weapon systems over the next decade². This shows that the NWS are planning for a future with nuclear weapons rather than for the complete elimination of nuclear weapons.

Specific tasks

There are four parties to the NPT that are essential for the entry into force of the CTBT: China, Egypt, Iran, and the United States. None of these countries have ratified the Treaty and thus have the main responsibility for the failure to implement this action item, in particular the two nuclear weapon states. On the FMCT negotiations, the current blockage in the Conference on Disarmament is caused by a state that is a non-party to the NPT. However, all NPT states parties have a responsibility to come up with creative ways of breaking the deadlock. The recently approved group of governmental experts on an FMCT is a positive step, but will not conclude its work until after the next NPT Review Conference in 2015, so will not be able to affect the implementation of this action by then.

Nuclear non-proliferation

Although 23 items (actions 23 to 46) deal with nuclear non-proliferation, they are neither particularly strong nor very concrete. They mainly ask states parties to "stay the course". As a result, this report shows that out of the 23 action points related to non-proliferation, three are red (relating to the lack of universalization and export controls), nine are yellow, and twelve are green. Based on this assessment, there has been more success in implementing in the area of non-proliferation than disarmament.

Universalization and export controls

The lack of progress on universalization and export controls relate in large part to on-going nuclear trade with India. After the Nuclear Suppliers Group (NSG) granted an exemption to the prohibition on trade with India, several NPT states parties have engaged in civilian nuclear agreements with India even though it is not an NPT or CTBT state party and continues to develop its nuclear arsenal.

Non-compliance concerns

Two action items make vague references to the nuclear programmes of the Democratic People's Republic of Korea (DPRK), Iran, and Syria. Actions 26 and 27 note the "importance in complying with the non-proliferation obligations" and the "importance of resolving all cases of non-compliance with safeguards obligations in full conformity with the IAEA statute." While the IAEA Board of Governors

1 Acheson, R., (ed.), "Executive Summary", *Assuring Destruction Forever: nuclear weapon modernization around the world*, (Reaching Critical Will, 2012), p.10.

2 Blair, B., "World Nuke Spending to Top \$1 Trillion Per Decade", *Time*, 4 June 2011.

has separately reported that Iran, Syria, and the DPRK are currently not complying with certain obligations, a clear and comprehensive definition of what constitutes mandatory obligations and compliance for each of these cases is still missing.

Safeguards

Action 30 stresses that “comprehensive safeguards and additional protocols should be universally applied once the complete elimination of nuclear weapons has been achieved.” This implies that the objective of universal compliance with the additional protocols and comprehensive safeguards is only likely following the elimination of all nuclear weapons. This in turn indicates that there might be little incentive for NPT non-nuclear weapon states to sign up to additional protocols unless they see substantive progress towards disarmament on the part of the NPT NWS.

Peaceful uses of nuclear energy

The third part of the action plan consists of 18 action items related to non-weaponised nuclear technology, each with varying grades of quantifiable elements.

The most serious development since the adoption of the action plan has been the Fukushima nuclear disaster, which put the issue of nuclear safety at the centre of this section of the action plan. The number of initiatives around the safety of nuclear energy is impressive, but still some key challenges remain. While acknowledging the crucial role of international institutions and mechanisms to ensure safety, some states parties have been wary about allowing them a greater role. These states have emphasized the responsibility and role of national agencies to ensure nuclear safety.

For example, applying in a more constraining way the principle of peer reviews is opposed by several states which emphasize the responsibility and role of national agencies to ensure nuclear safety. Because of this, it is unlikely that the Convention on Nuclear Safety (CNS) and other related international conventions will achieve universal adherence before the 2015 NPT Review Conference.

According to the research in this report, while the right to develop nuclear energy for peaceful purposes and to have the ability to participate in nuclear technology exchange programmes has been well established and reinforced, its implementation among NPT states parties remains uneven. In addition, the issue of safeguards, safety and security have become critical elements in the peaceful use of nuclear energy. Consequently, the action plan items related to this pillar have achieved the most progress with one red light, six yellow lights, and 11 green lights.

Implementation of the outcome document as a whole

While the action plan has 64 specific items, it needs to be read in the light of the entire outcome document from the 2010 Review Conference. While not in the action plan, the outcome document included other important agreements, most notably the decision to host a Conference on the establishment of a weapons of mass destruction (WMD) free zone in the Middle East and an expression of the “deep concern at the continued risk for humanity represented by the possibility that these weapons could be used and the catastrophic humanitarian consequences that would result from the use of nuclear weapons.”

These two items have taken a central place in nuclear weapons discussions since the 2010 Review Conference, and will likely continue to dominate discussions until the 2015 Review Conference.

Middle East

The conference scheduled for December on creating a zone free of WMD in the Middle East was postponed. The conveners issued separate statements that suggested disagreement among them on when the conference could take place and why it was postponed.

In its statement on 27 November, the US State Department said that the United States would like to see the conference held “as soon as possible” but that timing is not the reason for the postponement. The United Kingdom, Russian Federation, and the United Nations also released statements, but they called for the conference to be held in 2013.

The conference on the Middle East is one of the most serious challenges to the agreement in 2010, as it was a key element of the agreed package. This will most certainly be a dominating topic during the 2013 NPT Preparatory Committee in Geneva.

Agreeing to have a conference to discuss a WMD free zone in the Middle East is a modest achievement if one takes into account the fact that this commitment has been made in 1995. Furthermore, there are no guarantees that this is a start of a process or that it will lead to a WMD free zone in the near future. However, it has a significant symbolic value, especially for the countries in the region that accepted the indefinite extension of the NPT only in exchange for assurances that universalization of the Treaty would be prioritized through pursuance of such a zone.

Just as is seen with nuclear disarmament, conditions and external circumstances are used as an excuse for not achieving commitments and for not fully implementing previous decisions.

The failure to hold this conference in 2012 as stipulated in the outcome document is a serious set back, but failure to hold the conference at all in the near future will leave significant doubts about the commitment by key players to this issue, in particular the co-sponsors, the Russian Federation, the United States, and the United Kingdom.

Humanitarian consequences

The second important development from the 2010 outcome document was the reference to the humanitarian consequences of the use of nuclear weapons. The document expressed "deep concern at the continued risk for humanity represented by the possibility that these weapons could be used and the catastrophic humanitarian consequences that would result from the use of nuclear weapons" and reaffirmed "the need for all States at all times to comply with applicable international law, including international humanitarian law."

Following this, 16 governments delivered a joint statement at the 2012 NPT Preparatory Committee; and 35 governments did so at the 2012 General Assembly First Committee session, highlighting the catastrophic humanitarian consequences of nuclear weapons and calling on all states to intensify their efforts to ban these weapons. Many other states referenced this topic in their national and group statements. In addition, the Red Cross/Red Crescent movement adopted a resolution on the topic in 2011, which stated that the movement "finds it difficult to envisage how any use of nuclear weapons could be compatible with the rules of international humanitarian law, in particular the rules of distinction, precaution and proportionality," and urges states to abolish nuclear weapons.

On 4-5 March 2013, the Norwegian government hosted a conference on the Humanitarian Impact of Nuclear Weapons attended by 127 participating governments, many international organisations, and civil society representatives. The five nuclear weapon states did not attend. The chair's summary reflected the increasing global concern regarding the effects of nuclear weapons detonations, and recognized that this is an issue of fundamental significance to us all.

The P5 may have collectively dismissed the Oslo initiative on humanitarian consequences as "distracting" or as detrimental to existing "plans," but in reality, the Oslo conference proved to be the most relevant meeting on nuclear weapons held at the intergovernmental level in many years.

Rather than being divisive, it brought 127 governments together to acknowledge that the use of nuclear weapons would cause unacceptable devastation to human health, the environment, economies, development, infrastructure, and more; that there is no possibility of an adequate national or international response to such a catastrophe; and that this fundamental challenge to human and planetary survival must be addressed through preventative measures.

The continued work around humanitarian consequences of nuclear weapons is a compelling way to reduce the reliance of states on nuclear weapons in the world. It delegitimizes the use and possession of nuclear weapons, emphasizing the unacceptable harm they would cause to people,

the environment, the economy, development, and more. It moves forward where many arms control and reduction initiatives have failed by adding a new and refreshing dimension to the international discussion.

By any definition, nuclear weapons would be classed as inhumane. Therefore, this recent focus on the humanitarian consequences challenges the foundation of maintaining nuclear weapons and undermines any incentives for proliferation. Progress on the humanitarian consequences can therefore only strengthen the NPT and has great potential to contribute to the full implementation of the Treaty's core provisions on disarmament and non-proliferation.

Conclusion

Throughout the years, NPT states parties, especially the NWS, have shown limited interest and/or ability in implementing any concrete decisions. The 1995 resolution on the Middle East remains unimplemented, as do the 13 steps from 2000. The prognosis for the 2010 NPT action plan's full implementation does not look overwhelmingly promising at this point, with only two years remaining until the next Review Conference.

More efforts are needed, and setbacks such as the failure to convene a 2012 conference on the WMD zone in the Middle East will only harm the remaining efforts that need to be made in order to implement all 64 actions.

The most positive development so far has been the effort undertaken by many states parties to implement the outcome document's concerns with the humanitarian consequences of nuclear weapons.

While all states parties to the NPT, including the five NWS, acknowledged the catastrophic humanitarian consequences that nuclear weapons would cause if used, the nuclear weapon states did not participate in the conference in Oslo to further discuss this issue. This demonstrates their failure to take responsibility for the inhumane impact that these weapons will cause. However, the humanitarian discourse is here to stay, and positively enough, 127 other countries did step up to the task and met in Oslo to discuss evidence of the effects of nuclear weapons.

Such progressive movement will help to reframe the debate around nuclear weapons and facilitate progress on concrete disarmament and non-proliferation measures, including in respect to the action plan. Continuing the discussion and focus on the humanitarian consequences should be encouraged in order to facilitate the implementation of the action plan, but also to implement the core provisions of the NPT.

Much work remains in order to fully implement the NPT action plan by 2015, in particular the actions under the disarmament pillar. With only two years remaining, focusing on the humanitarian consequences and making further efforts to delegitimize nuclear weapons is a concrete way in which all states can implement article VI of the NPT and thereby make concrete progress towards a world free of nuclear weapons.

SUMMARY OF IMPLEMENTATION OF ACTIONS

- **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 continued reliance on nuclear weapons in security doctrines and policies and the on-going modernization plans of all nuclear weapon states (NWS) are neither compatible with the NPT's letter nor spirit. If this action is to be implemented by 2015, modernization of nuclear weapons, delivery systems, and related facilities must stop and the nuclear weapon states and those involved in nuclear armed alliances must significantly reduce the role of nuclear weapons in their respective security doctrines and policies.

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

For the reductions of nuclear arsenals that have taken place since the adoption of the NPT Action Plan, NWS are failing to adequately apply the principles of irreversibility, verifiability, and transparency. For example, the recent lowering by the United Kingdom of its stockpile of nuclear weapons was not accompanied by any verification mechanism. The inspection scheme under the New Strategic Arms Reduction Treaty (START) between Russia and the United States is a step in the right direction of transparency and verification. However, the fact that non-deployed warheads are not covered by New START shows that the principle of irreversibility is not adequately addressed. This action can therefore not be considered implemented.

- **Action 3:** In implementing the unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenal, 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.

The overall global stockpile of nuclear weapons is decreasing. However, it is important to note that qualitative and quantitative disarmament are equally important to achieve a world free of nuclear weapons. The research in this publication shows that recent progress has mainly concerned quantitative disarmament. Meanwhile, qualitative disarmament has as of yet not been addressed adequately and the modernization plans of the nuclear weapon states undermine the minimal reductions undertaken. In addition, progress on "all types of nuclear weapons" has not been seen, since reductions or removal of tactical weapons still are not being addressed. Therefore, this action cannot be considered implemented.

- **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.

The ratification and implementation of New START by both the United States and Russia means that the first part of action 4 is being implemented. Recent statements by President Obama suggest that follow-on measures for further reduction may be initiated. This action cannot be viewed as fully implemented yet, as it remains to be seen whether future meetings will lead to concrete results.



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:

- Rapidly moving towards an overall reduction in the global stockpile of all types of nuclear weapons, as identified in action 3;
- Address the question of all nuclear weapons regardless of their type or their location as an integral part of the general nuclear disarmament process;
- To further diminish the role and significance of nuclear weapons in all military and security concepts, doctrines and policies;
- 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;
- 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;
- Reduce the risk of accidental use of nuclear weapons; and
- Further enhance transparency and increase mutual confidence.

The nuclear arsenals of four out of five of the NWS continue to decrease. Though it is taking place at a different speed in each NWS, this is a positive development and means that action 5(a) is currently being implemented by the majority of the NWS. However, the research in this publication has shown that modernization and qualitative improvement of nuclear arsenals, reluctance by NWS and others to endorse progressive UN General Assembly (UNGA) resolutions on nuclear disarmament, lack of progress on removing or reducing non-strategic nuclear weapons, the outspoken intention to continue to rely on nuclear weapons for security for decades to come, the reluctance to decrease operational readiness, the opposition to begin preparatory discussions on a nuclear weapons convention or a framework of mutually reinforcing instruments, and the lack of progress within the Conference on Disarmament mean that the obligations in this key action cannot be considered to be implemented. While the NWS have met on a few occasions since the adoption of the Action Plan, the nature and scope of their discussions are not reported transparently. What has been indicated to the public has not met the expectations of many NPT states parties nor civil society.



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 programme of work.

The attempts to establish a subsidiary body to deal with nuclear disarmament through a programme of work in the Conference on Disarmament have failed. While the opposition to the most recent proposals come from a non-NPT state, the reluctance of some states parties to the NPT to come up with new and creative solutions has prevented this action from being implemented. The UN General Assembly in 2012 established an open-ended working group to “develop proposals to take forward multilateral nuclear disarmament negotiations for the achievement and maintenance of a world without nuclear weapons” to meet in 2013. Additionally a high-level meeting of the UNGA on nuclear disarmament has been scheduled for 26 September 2013. Whether these initiatives facilitate the establishment of a subsidiary body on nuclear disarmament in the Conference on Disarmament remains to be seen.

- **Action 7:** All States agree that the Conference on Disarmament should, within the context of an agreed, comprehensive and balanced programme 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.

No progress has been made on a global instrument pertaining to negative security assurances (NSAs) as mandated by action 7. While the most recent proposal for a programme of work in the Conference on Disarmament was opposed only by a non-NPT state, NPT states parties have not made adequate efforts to come up with alternative and creative solutions. While the high-level meeting on the work of the CD did take place in September 2010 and a follow-up meeting of the UN General Assembly was held in July 2011, these meetings had no concrete results on starting discussions on negative security assurances or any other topic on the CD's agenda.

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

There has not been much progress on the issue of NSAs since the adoption of the 2010 NPT Action Plan. Both the US and UK have made recent changes in the language of their nuclear postures concerning this issue, but China is still the only nuclear weapon state that has made a pledge to not use nuclear weapons against non-nuclear weapon states (NNWS) without any conditions or reservations. The US and UK have a policy not to use nuclear weapons against NPT NNWS that are in compliance with "non-proliferation obligations," which is an undefined concept. France, UK, US, and Russia still abstain on the annual UNGA resolution "Conclusion of effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons".

- **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 reservation.

Since the adoption of the 2010 NPT Action Plan, Russia has ratified protocols I and II to the Pelindaba Treaty. The US has made some minor progress on the ratification process for the protocols to the Pelindaba and Rarotonga treaties by submitting these instruments for approval to its Senate. Five states have ratified the Pelindaba Treaty. Consultations between the members of the Bangkok Treaty and the NWS are another encouraging development. So far, these consultations have not produced any concrete results, but progress may be on the way. While the UK and US have indicated that they would be willing to discuss outstanding difficulties with the Central Asian nuclear weapons free zone, no consultations have yet taken place. The progress made on the establishment of a zone free of nuclear weapons and other weapons of mass destruction in the Middle East, such as appointing a facilitator and agreeing on a venue, is overshadowed by the postponement of the conference initially planned for December 2012. Finally, no modifications of any reservations by NWS to any of the protocols of NWFZ treaties have taken place. Despite some positive steps, states parties need to make additional efforts in order to fully implement this action.



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.

There are still two NWS that need to ratify the CTBT for the Treaty to enter into force: China and the United States. These two countries are not complying with this action. In addition, there are 31 more parties of the NPT, including two more Annex II countries – Iran and Egypt – that also have not yet signed or ratified the CTBT. However, China and the United States have a special responsibility under this actions since they are the only NWS under the NPT that have not yet ratified the Treaty. Both states have made clear their intention to ratify the CTBT since the NPT Review Conference in 2010, but have not laid out any concrete timetable for when this will happen.



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.



Action 12: All States that have ratified the Comprehensive Nuclear-Test-Ban Treaty recognize the contribution of the conference on facilitating the entry into force of that Treaty and of the measures adopted by consensus at the Sixty 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.



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 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 reach, and provide assurance of compliance with that Treaty.

Many member states participated in the Ministerial Meetings in September 2010 and 2012 as well as the Article XIV Conference in September 2011 and repeatedly called for the prompt entry into force of the CTBT. However, it is not clear to what extent these states promoted the entry into force of this instrument in their bilateral relations with the outstanding annex II states, though official statements and documents indicate that states are currently complying with these actions. The monitoring system of the CTBT continues to be developed by the Preparatory Commission to the CTBTO and therefore action 14 is also complied with.

- **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.

Not much progress has been made on negotiations of a treaty banning fissile materials for use in nuclear weapons in the CD. While the most recent proposals for a programme of work in the CD is opposed only by a non-NPT state, NPT states parties have not made adequate efforts to come up with alternative and creative solutions. The high-level meeting took place in September 2010 and a follow-up meeting of the UN General Assembly was held July 2011, without having a great effect on discussions within the CD. However, in 2012 at the UNGA adopted a resolution establishing a Group of Governmental Experts (GGE) to make recommendations on possible elements of such a treaty. The GGE will meet in 2014 and 2015. While this is a positive step, it does not fulfil the requirements set out by the action, to begin negotiations on such an instrument within the CD.

- **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.
- **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.

No significant changes after the adoption of the 2010 NPT Action Plan have taken place. Three out of the five NWS have declared excess fissile material for military use, although IAEA involvement has been limited. The remaining stockpile of HEU in both Russia and the US exceeds their military requirements and both countries could declare more HEU as excess to national security requirements. No developments of any legally-binding verification arrangements as described in action 17 have taken place, and therefore states are not considered to have implemented this action.

- **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.

Since a moratorium on production of fissile material for weapons purposes has been announced by four of the five NWS, most production facilities have been dismantled. While not publicly declaring such a moratorium, China is also believed to have stopped production of fissile material for weapons purposes and to have closed or converted such facilities, but should announce this publicly. This action is considered being as complied with, but it needs to be noted that no specific steps have been taken since the 2010 NPT Action Plan.

- **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.

The UK-Norway-VERTIC initiative is the only significant project related to cooperation on these issues although some countries are reportedly developing new projects on similar issues. More efforts are needed to fully implement this action.

- **Action 20:** States parties should submit regular reports, within the framework of 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.

The national reporting system under the NPT had a low level of participation in the lead-up to the 2010 NPT Review Conference. Halfway through the 2015 Review cycle, only five countries have submitted reports. Significant progress needs to be made during the upcoming preparatory process for the 2015 Review Conference if this action is to be implemented.

- **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.

The NWS are reported to have discussed a standard reporting form at their meetings, and the Non-Proliferation and Disarmament Initiative (NPDI) sought to contribute to this objective by making a concrete proposal. However, there have been no official comments from the NWS on the NPDI proposal, and no similar proposal has been put forward by the NWS. The NWS should agree on and present a standard reporting form as a first step in order to fulfil this action. The United Nations has created an online repository for 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.

Reporting on implementation of the UN Secretary-General's recommendations on disarmament education has been poor, with only nine states submitting information for the 2012 update of the Secretary-General's report. In order for this action to be implemented, NPT states parties must significantly improve their disarmament education efforts.

- **Action 23:** The Conference calls upon all States parties to exert all efforts to promote universal adherence to the Treaty, and not to undertake any actions that can negatively affect prospects for the universality of the Treaty.

By examining the concrete events that have taken place since the adoption of the 2010 NPT Action Plan, it is possible to conclude that states parties are not exerting all efforts in order to reach this goal. While some have made statements on the topic, many consistently avoid calling out the names of the non-members of the NPT. Furthermore, the increased nuclear cooperation with India and Pakistan show that such rhetoric is not matched by corresponding actions. In fact, any calls for universalization are undermined by the reality of the international community's relations with these two states as well as with Israel. Also, the voting results in the UN General Assembly concerning resolutions calling for universalization of the NPT have not significantly changed since the conclusion of the Action Plan. The recent nuclear test by the DPRK signals a negative development that moves the country even further away from once again adhering to the Treaty.

- **Action 24:** The Conference re-endorses the call by previous review conferences for the application of IAEA comprehensive safeguards to all source or special fissionable material in all peaceful nuclear activities in the States parties in accordance with the provisions of article III of the Treaty.

Only 13 countries have not yet implemented a comprehensive safeguards agreement (CSA) with the IAEA, and most of those countries do not carry out any significant civilian nuclear activities. Therefore, the call in this action can be considered implemented.

- **Action 25:** The Conference, noting that 18 States parties to the Treaty have yet to bring into force comprehensive safeguards agreements, urges them to do so as soon as possible and without further delay.

This action calls specifically on the states parties that had not brought into force a CSA by May 2010 to do so. Since that date, seven countries have done so. No other progress by the remaining 11 countries has been noted. While progress has been achieved, further efforts by the remaining 11 countries will need to be carried out if this action is to be complied with by 2015.

- **Action 26:** The Conference underscores the importance in complying with the non-proliferation obligations, addressing all compliance matters in order to uphold the Treaty's integrity and the authority of the safeguards system.

- **Action 27:** The Conference underscores the importance of resolving all cases of non-compliance with safeguards obligations in full conformity with the IAEA statute and the respective legal obligations of Member States. In this regard, the Conference calls upon Member States to extend their cooperation to the Agency.

These two actions are complicated to evaluate since the phrases "non-proliferation obligations" and "non-compliance" are open for interpretation. The view on what constitutes mandatory obligations and thereby compliance with such obligations differs quite significantly. "Non-proliferation obligations" is not a legally-defined term, whereas the safeguards agreements of each country are very specific. Furthermore, it can be argued that the term "respective legal obligations" in action 27 also includes those obligations arising from UNSC resolutions. The IAEA Board of Governors has reported that Iran, Syria, and the DPRK are currently not complying with certain obligations. All parties need to implement their non-proliferation obligations to the fullest extent. However, the three above-mentioned states do not agree that they are in violation of any of their legal obligations. Additionally, DPRK has withdrawn from the NPT and has no agreements with the IAEA. Iran is in compliance with its CSA obligations (though not the (voluntary) implementation of the additional protocol). The current situation in Syria does not allow for the implementation of any safeguards agreement. However, it is imperative that the concerned states implement their legal obligations in good faith and exercise flexibility, transparency in their cooperation with the IAEA. Depending on the reading of action 27 and the respective developments, this action could be considered as not complied with by several States (red light) or only partly complied with (yellow light).

- **Action 28:** The Conference encourages all States parties which have not yet done so to conclude and to bring into force additional protocols as soon as possible and to implement them provisionally pending their entry into force.

Currently, 119 states have additional protocols in force, an increase of 18 states since May 2010. This is a positive development, but 71 member states of the NPT have still not brought into force an additional protocol. Therefore this action needs to see more progress if it should be considered implemented by 2015.

- **Action 29:** The Conference encourages IAEA to further facilitate and assist the States parties in the conclusion and entry into force of comprehensive safeguards agreements and additional protocols. The Conference calls on States parties to consider specific measures that would promote the universalization of the comprehensive safeguards agreements.

One of the priorities of the IAEA is to facilitate and assist states parties on progress on CSAs and additional protocols. Several initiatives to further facilitate the entry into force and universalization of CSAs and additional protocols by the IAEA have taken place and the progress on adherence to such instruments shows that this action is currently being implemented.

- **Action 30:** The Conference calls for the wider application of safeguards to peaceful nuclear facilities in the nuclear-weapon States, under the relevant voluntary offer safeguards agreements, in the most economic and practical way possible, taking into account the availability of IAEA resources, and stresses that comprehensive safeguards and additional protocols should be universally applied once the complete elimination of nuclear weapons has been achieved.

There have been no reported changes in the application of the Voluntary Offer Agreement in the nuclear weapon states since May 2010 and therefore this action cannot be considered implemented.

- **Action 31:** The Conference encourages all States parties with small quantities protocols which have not yet done so to amend or rescind them, as appropriate, as soon as possible.

Since the adoption of the Action Plan, nine states parties have amended their small quantities protocols (SQP). In addition, three new SQPs have entered into force, one new SQP has been signed, and the IAEA Board of Governors has approved one. However, a large number of SQPs from before 2005 remain and therefore this action will require further efforts by these states in order to be implemented fully.

- **Action 32:** The Conference recommends that IAEA safeguards should be assessed and evaluated regularly. Decisions adopted by the IAEA policy bodies aimed at further strengthening the effectiveness and improving the efficiency of IAEA safeguards should be supported and implemented.

There has been some significant progress in this area, through new IAEA, multilateral, and national initiatives on optimizing the IAEA safeguards system. While it remains to be seen if any of these activities will have any concrete results on improving effectiveness and efficiency of safeguards, the action is currently being implemented.

- **Action 33:** The Conference calls upon all States parties to ensure that IAEA continues to have all political, technical and financial support so that it is able to effectively meet its responsibility to apply safeguards as required by article III of the Treaty.

- **Action 34:** The Conference encourages States parties, within the framework of the IAEA statute, to further develop a robust, flexible, adaptive and cost effective international technology base for advanced safeguards through cooperation among Member States and with IAEA.

There has been modest progress reported on actions 33 and 34 dealing with the IAEA and safeguards. However, the actions do not call for a specific increase of activities, but rather for continued support and to “further develop” activities. The work of the IAEA in this area appears to be moving forward and to be of a predictable nature, and therefore these actions seem to be implemented.

- **Action 35:** The Conference urges all States parties to ensure that their nuclear related exports do not directly or indirectly assist the development of nuclear weapons or other nuclear explosive devices and that such exports are in full conformity with the objectives and purposes of the Treaty as stipulated, particularly, in articles I, II and III of the Treaty, as well as the decision on principles and objectives of nuclear non-proliferation and disarmament adopted in 1995 by the Review and Extension Conference.

This action does not add any additional obligations aside from what is already in the NPT and previous decisions, but it does serve as a reminder that states are obliged to ensure that their nuclear-related exports do not directly or indirectly assist the development of nuclear weapons and that the 1995 decision on objectives and purposes of the Treaty requires states parties to promote transparency in nuclear-related export controls. In order to fully comply with this action, all states with nuclear cooperation agreements with states non-parties to the NPT need to provide transparent information on how their nuclear exports do not directly or indirectly assist the development of nuclear weapons in these countries. As this is not the case, in particular in nuclear energy cooperation agreements with India and Pakistan, this action cannot be considered implemented.

- **Action 36:** The Conference encourages States parties to make use of multilaterally negotiated and agreed guidelines and understandings in developing their own national export controls.

Action 36 is simply an encouragement and will be dependent on the state involved. The research in this study has shown that many countries have developed national export controls based on multilaterally negotiated guidelines, and therefore this action is considered implemented.

- **Action 37:** The Conference encourages States parties to consider whether a recipient State has brought into force IAEA safeguards obligations in making nuclear export decisions.

The implementation of this action depends on how one interprets safeguards obligations. As the action only refers to "IAEA safeguards obligations," it could be interpreted as meaning that the limited safeguards agreement on certain specified nuclear facilities in states not party to the NPT would be enough to implement this action. With such an interpretation, one could argue that the action is being implemented. If one interprets "IAEA safeguards obligations" as meaning the comprehensive safeguards agreement and additional protocol, then nuclear exports to countries outside the NPT and to countries without an additional protocol in place means that this action is not being implemented.

- **Action 38:** The Conference calls upon all States parties, in acting in pursuance of the objectives of the Treaty, to observe the legitimate right of all States parties, in particular developing States, to full access to nuclear material, equipment and technological information for peaceful purposes.

- **Action 39:** States parties are encouraged to facilitate transfers of nuclear technology and materials and international cooperation among States parties, in conformity with articles I, II, III and IV of the Treaty, and to eliminate in this regard any undue constraints inconsistent with the Treaty.

Many states continue to highlight the importance of having the right to develop nuclear energy for peaceful purposes and to have the ability to participate in nuclear technology exchange programmes. At the same time, there are few examples of states parties making additional and publicly visible efforts to make sure that all states parties can participate in nuclear energy exchanges. The statement by the G8 shows that countries continue to support the notion of exchange of technology for development of nuclear energy, but it remains difficult to assess what this actually means in practice. It is therefore appropriate to conclude that states parties are currently complying with

the obligations under action 38 and 39 of the 2010 NPT Action Plan, but that disagreement on the implementation of these commitments is based on the interpretation of certain wording in the Action Plan and the NPT itself.

- **Action 40:** The Conference encourages all States to maintain the highest possible standards of security and physical protection of nuclear materials and facilities.

The term “highest possible standards” is not defined in the Action Plan. The IAEA provides a list of instruments that are “fundamental for nuclear security” but does not indicate if these are considered to be a general interpretation of the “highest possible standards”. If such an interpretation is made, a clear majority of states parties are complying with this action. Since it was launched in April 2010, the Nuclear Security Summit process as well as the IAEA Nuclear Security Conference planned for next July have reinforced Action 40.

- **Action 41:** The Conference encourages all States parties to apply, as appropriate, the IAEA recommendations on the physical protection of nuclear material and nuclear facilities (INFCIRC/225/Rev.4 (Corrected)) and other relevant international instruments at the earliest possible date.

As the IAEA recommendation does not entail a legal commitment and does not require signature and ratification of member states, it is difficult to assess compliance levels. However, nothing indicates that states parties are not continuing to promote and work on physical protection of nuclear materials so therefore the action is considered implemented.

- **Action 42:** The Conference calls on all States parties to the Convention on the Physical Protection of Nuclear Material to ratify the amendment to the Convention as soon as possible and encourages them to act in accordance with the objectives and the purpose of the amendment until such time as it enters into force. The Conference also encourages all States that have not yet done so to adhere to the Convention and adopt the amendment as soon as possible.

Adherence to this convention and its amendments is improving but a significant number of countries still remain outside. Therefore, additional progress by those states remaining outside is needed in order to fully implement this action.

- **Action 43:** The Conference urges all States parties to implement the principles of the revised IAEA Code of Conduct on the Safety and Security of Radioactive Sources, as well as the Guidance on the Import and Export of Radioactive Sources approved by the IAEA Board of Governors in 2004.

A clear majority of NPT states parties have expressed support for this code and many of those have explicitly supported all aspects of the supplementary Guidance on the Import and Export of Radioactive Sources. At the same time, some countries have withdrawn their political support to the Code and adherence has not increased significantly since May 2010. Therefore, additional efforts are needed to fully implement this action.

- **Action 44:** The Conference calls upon all States parties to improve their national capabilities to detect, deter and disrupt illicit trafficking in nuclear materials throughout their territories, in accordance with their relevant international legal obligations, and calls upon those States parties in a position to do so to work to enhance international partnerships and capacity-building in this regard. The Conference also calls upon States parties to establish and enforce effective domestic controls to prevent the proliferation of nuclear weapons in accordance with their relevant international legal obligations.

The amount of activities dedicated to prevention of nuclear terrorism and the illicit trafficking of nuclear materials is significant. It has continued to grow after the conclusion of the 2010 NPT Action Plan. However, most initiatives are multilateral and not national. The action requires states to improve their national capabilities to detect illicit trafficking. While the multilateral initiatives are important for assisting states in improving their national capabilities, their direct effects are difficult to assess.

Aside from the difficulties to assess the impact of multilateral activities on national capacities, preventing nuclear terrorism and illicit trafficking of nuclear materials is one of the most fast-paced areas of implementation of the NPT Action Plan. The cooperation between governments, organizations, and some non-governmental actors is significant and therefore states parties are currently implementing this action.

- **Action 45:** The Conference encourages all States parties that have not yet done so to become party to the International Convention for the Suppression of Acts of Nuclear Terrorism as soon as possible.

Since May 2010, the Convention has 16 new parties. While this is a positive step in the right direction, there are still 57 states that have signed but not yet ratified the Convention. Further progress on adherence to this convention is needed in order to fully implement the action by 2015.

- **Action 46:** The Conference encourages IAEA to continue to assist the States parties in strengthening their national regulatory controls of nuclear material, including the establishment and maintenance of the State systems of accounting for and control of nuclear material, as well as systems on regional level. The Conference calls upon IAEA Member States to broaden their support for the relevant IAEA programmes.

There has been modest progress reported on action 46, dealing with the activities of the IAEA. As the action does not call for specific increases of activities, but rather for member states to assist and broaden support for the IAEA, this action seems to be implemented.

- **Action 47:** Respect each country's choices and decisions in the field of peaceful uses of nuclear energy without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle policies.
- **Action 48:** Undertake to facilitate, and reaffirm the right of States parties to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.

The research shows that states continue to highlight the importance of having the right to develop nuclear energy for peaceful purposes and to have the ability to participate in nuclear technology exchange programmes. At the same time, there are few examples of states parties making additional and publicly visible efforts to make sure that all states can participate in nuclear energy exchanges. Despite the Fukushima accident, most states continue to support the notion of exchange of technology for development of nuclear energy, but it remains difficult to assess what this actually means in practice.

It is therefore concluded that states parties are currently complying with the obligations under these actions, but it is essential to note that disagreement on the implementation of these commitments can exist due to differences in interpretation of certain wording of the Action Plan and the NPT itself.

- **Action 49:** Cooperate with other States parties or international organizations in the further development of nuclear energy for peaceful purposes, with due consideration for the needs of the developing areas of the world.

Nuclear energy continues to be a source of extensive international cooperation. The earthquake and tsunami in Japan and the following disaster at the Fukushima nuclear power plant have given pause to some negotiations and some states are reconsidering their continued use or development of nuclear power, but most states continue to expand their nuclear options.

The number of technical cooperation initiatives through the IAEA continues to rise and so does bilateral cooperation among states. Immediate connection to the NPT Action Plan, however, is difficult to ascertain, since no significant increase in training or cooperation activities since May 2010 can be detected. IAEA Technical Cooperation Programmes (TCP) and regional cooperation under the umbrella of the respective regional division of the TCP mostly focus on the training of personnel and the education of experts. Bilateral cooperation among states also includes the training of personnel but mainly focuses on the exchange of nuclear technology and expertise. States are therefore considered to be in compliance with action 49.

-  **Action 50:** Give preferential treatment to the non-nuclear-weapon States parties to the Treaty, taking the needs of developing countries, in particular, into account.

When comparing the amount and scope of cooperation of NPT states parties with nuclear weapon-possessors not party to the NPT, especially the increased cooperation with India since the Nuclear Suppliers Group (NSG) exception was granted, shows that the line between states not party to the NPT and NNWS parties to the NPT is diminishing. Such a development has inevitably raised concerns about the compliance with this action and will continue to be a source of significant disagreement at future NPT conferences, especially since the United States has formally introduced the issue of the India's membership in the NSG.

-  **Action 51:** Facilitate transfers of nuclear technology and international cooperation among States parties in conformity with articles I, II, III, and IV of the Treaty, and eliminate in this regard any undue constraints inconsistent with the Treaty.

Nuclear energy cooperation amongst NPT states parties is significant and continues to expand. The earthquake and tsunami in Japan and the following disaster at the Fukushima nuclear power plant have given pause to some negotiations and some states are reconsidering their continued use or development of nuclear power, but most states continue to expand their nuclear options. Differences in interpretation of the NPT and its articles can lead to different conclusions on the implementation of this action, but our research has not found anything concrete that would indicate that this action is not currently being implemented.

-  **Action 52:** Continue efforts, within IAEA, to enhance the effectiveness and efficiency of its technical cooperation programme.
-  **Action 53:** Strengthen the IAEA technical cooperation programme in assisting developing States parties in the peaceful uses of nuclear energy.

The technical cooperation programmes between states parties and the IAEA are continuing to be developed and implemented and new ones are initiated constantly. Progress on action 52 and 53 is significant and is therefore considered implemented.

-  **Action 54:** Make every effort and to take practical steps to ensure that IAEA resources for technical cooperation activities are sufficient, assured and predictable.

Between 2010 and 2013, the IAEA Board of Governors increased the estimated target figure for the Technical Cooperation Fund with over three million dollars. If states parties continue to pledge and pay at the same rate as they did in 2009, the funding for the technical cooperation programme should increase from its 2009 levels. Based on the target figures, action 54 is considered complied with by the IAEA member states as a group.

- **Action 55:** Encourage all States in a position to do so to make additional contributions to the initiative designed to raise 100 million dollars over the next five years as extra budgetary contributions to IAEA activities, while welcoming the contributions already pledged by countries and groups of countries in support of IAEA activities.

Action 55 encourages states to make additional contributions to the initiative designed to raise 100 million dollars. So far, the United States and Japan have publicly announced figures for this, 50 million dollars and 3.5 million dollars respectively. Other countries have announced that they either will or are considering contributing to this initiative, but no figures have been made public. In order to fully implement action 55, states would need to increase their publicly pledged donations and deliver what was pledged. Since the technical cooperation is a statutory task of the Agency, the debate on diminishing the importance of extrabudgetary funding by introducing the Technical Cooperation Fund in the IAEA regular budget has become more intense since 2010.

- **Action 56:** Encourage national, bilateral and international efforts to train the necessary skilled workforce needed to develop peaceful uses of nuclear energy.

The action does not require any increase in activities; it mainly calls upon states to encourage training programmes. No decrease of training programmes has been found, and therefore this action is considered implemented.

- **Action 57:** Ensure that, when developing nuclear energy, including nuclear power, the use of nuclear energy must be accompanied by commitments to and ongoing implementation of safeguards as well as appropriate and effective levels of safety and security, consistent with States' national legislation and respective international obligations.

The Fukushima disaster has raised significant concerns around the world about the safety of nuclear energy and has highlighted that existing nuclear power plants are not always accompanied by "appropriate and effective" levels of safety. Fukushima has led to renewed focus on nuclear safety, and states are engaging in additional efforts to improve nuclear safety. While not without criticism and reservations, the adopted IAEA action plan on nuclear safety is a positive step. Additionally during the meeting of the Convention on Nuclear Safety in August 2012 a working group on nuclear safety was created to discuss measures to strengthen nuclear safety. While these efforts are a step in the right direction, more concrete measures and improvements in nuclear safety need to be implemented. The significance of this action is evolving and therefore needs to be implemented more strictly.

- **Action 58:** Continue to discuss further, in a non-discriminatory and transparent manner under the auspices of IAEA or regional forums, the development of multilateral approaches to the nuclear fuel cycle, including the possibilities of creating mechanisms for assurance of nuclear fuel supply, as well as possible schemes dealing with the back-end of the fuel cycle without affecting rights under the Treaty and without prejudice to national fuel cycle policies, while tackling the technical, legal and economic complexities surrounding these issues, including, in this regard, the requirement of IAEA full scope safeguards.

The decision to establish a new nuclear fuel bank under the auspices of the IAEA is one of the most significant developments since the Action Plan was adopted in May 2010. The decision was made in the IAEA, and therefore is compatible with the requirement of the action. The financial and rhetorical support from several states shows a continued commitment to this action. The Fukushima accident does not appear to have had any significant impact on the debate on multilateral approaches to the nuclear fuel cycle.

- **Action 59:** Consider becoming party, if they have not yet done so, to the Convention on Nuclear Safety, the Convention on Early Notification of a Nuclear Accident, the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the International Convention for the Suppression of Acts of Nuclear Terrorism, the Convention on the Physical Protection of Nuclear Material, and to ratify its amendment so that it may enter into force at an early date.

The conventions on nuclear safety and security, as well as civil liability in case of nuclear accident, are growing in importance since the Fukushima disaster. The conventions in action 59 have seen some modest progress in signatures and ratifications, but it is far from any significant achievement to increase adherence. Even though the action only obliges states to “consider” becoming parties to these conventions, states need to make further efforts in order to implement action 59.

- **Action 60:** Promote the sharing of best practices in the area of nuclear safety and security, including through dialogue with the nuclear industry and the private sector, as appropriate.

This action does not require any increase of activities; it mainly calls upon states to promote sharing of best practices. However, new initiatives for sharing of best practices have taken place and therefore it is considered being implemented.

- **Action 61:** Encourage States concerned, on a voluntary basis, to further minimize highly enriched uranium in civilian stocks and use, where technically and economically feasible.

The global amount of highly-enriched uranium (HEU) has decreased from 2009 to 2012, indicating that some progress has been made. In particular, Serbia and Ukraine have since May 2010 made significant progress in removing their entire stockpiles of HEU. Despite the voluntary nature of this action, more efforts to reduce HEU should be made in order to fully implement this action. States should also consider measures to increase transparency in the field of fissile material, in order to facilitate additional reductions in the future. Unfortunately, there has been no significant discussion on whether the security and transparency concerning such material really is best served by transferring it to an NWS or whether other mechanisms, such as within the framework of the IAEA should be developed.

- **Action 62:** Transport radioactive materials consistent with relevant international standards of safety, security and environmental protection, and to continue communication between shipping and coastal States for the purpose of confidence-building and addressing concerns regarding transport safety, security and emergency preparedness.

No significant changes can be mentioned in connection with the transport of radioactive material. Several IAEA initiatives continue to take place and international standards for transport and communications seem to be complied with. The concerns expressed by the Caribbean Community (CARICOM) show that more communication and confidence-building measures are needed to address this issue, but the action is considered to be implemented.

- **Action 63:** Put in force a civil nuclear liability regime by becoming party to relevant international instruments or adopting suitable national legislation, based upon the principles established by the main pertinent international instruments.

With regards to international civil liability regimes, only limited progress has been achieved. As the action includes a concrete commitment that states parties “shall” put such civil liability regimes in place, it cannot be considered fully implemented.



Action 64: The Conference calls upon all States to abide by the decision adopted by consensus at the IAEA General Conference on 18 September 2009 on prohibition of armed attack or threat of attack against nuclear installations, during operation or under construction.

No attack against a nuclear installation has been reported since the adoption of the NPT Action Plan. However, concrete threats of attacks on Iranian nuclear facilities have been made by Israel while the US has publicly stated that “all options are on the table”. This raises concerns with regard to the implementation of this action.

DISARMAMENT AND ARMS REDUCTION EFFORTS

- **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.
- **Action 3:** In implementing the unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenal, 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.
- **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.
- **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
- **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 programme of work.

Status of world nuclear forces

The Federation of American Scientists (FAS) regularly publishes a global nuclear weapon inventory based on available information. According to these figures, the total numbers of nuclear weapons are slowly decreasing due to Russian and US reductions of Cold War arsenals. However, all nuclear

weapon states (NWS), as well as other non-NPT nuclear possessor states,³ continue to either produce new or modernize current nuclear weapon systems. In addition, all NWS insist that nuclear weapons are essential for their national security.

Inventory of nuclear warheads between 2009-2012⁴

	Russia	United States	United Kingdom	France	China
2009	13,000	10,500	225	300	240
2010	12,000	9,000	225	300	240
2011	11,000	9,000	225	300	240
2012	8,500	7,700	225	300	240

The numbers in this table also include intact warheads that are awaiting dismantlement. In December 2012, FAS estimated that warheads non-deployed were around 2,700 for Russia, 2,500 for the US and 65 for the UK.

China

For China there are different estimations on the size of the nuclear arsenal.⁵ According to FAS, China is reported to have a total stockpile of around 240 nuclear warheads, most of them in storage. Under the guideline of China's no first use doctrine and the principle of a "lean and effective" (*'jinggan youxiao'*) nuclear force, the main goal of China's nuclear modernization, initiated in the 1980s, is reported to aim at securing a limited and reliable second-strike nuclear force to deter a nuclear attack.⁶ To have a small arsenal capable of counterattack, China's nuclear modernization has been focusing on qualitative improvement to its arsenal rather than mere quantitative developments during the past three decades. Specifically, China's efforts are mainly aimed at increasing the survivability of its nuclear force by replacing older, liquid-fuelled missiles with solid-fuelled, mobile ballistic missiles, constructing underground tunnels that can act as missile bases and expanding its sea-based deterrent.⁷

Quantitative

On 30 March 2011, China published a new white paper that gives an overview of China's military strategy and arms control policy. As in previous defence papers and other official documents the white paper does not reveal any basic information on the size of China's current nuclear capability or nuclear arsenal, neither does it provide information on modernization efforts.⁸

According to information provided by the British American Security Information Council (BASIC), in 2011 China was reported to be phasing out its older missiles, DF-3A and the DF-4, and is replacing them⁹ with new DF-21 medium range missile, approximately 55–60 of which are nuclear capable.¹⁰ In addition, China has deployed four other nuclear-capable ballistic missiles, the DF-5A, DF-31, DF-31A, and JL-2.¹¹ These developments in missile capability will both increase the range and sophistication

3 India, Israel and Pakistan.

4 "Status of World Nuclear Forces, and Global Nuclear Weapons Inventory 1945-2010", Federation of American Scientists, 31 December 2012.

5 For example Hui Zhang has estimated the total number of nuclear warheads to be 166. See Zhang. H. "China", Assuring destruction forever: nuclear weapon modernization around the world, Reaching Critical Will of WILPF, 2012, p. 20 or Zhang, H. "How US restraint can keep China's nuclear arsenal small", Bulletin of the Atomic Scientists, July 2012, p. 74, 79.

6 Zhang. H. "China", Assuring destruction forever: nuclear weapon modernization around the world, Reaching Critical Will of WILPF, 2012, p. 17.

7 Ibid.

8 Kristensen. H & Norris. R, "Chinese nuclear forces, 2011," Bulletin of the Atomic Scientists, November 2011, p. 81.

9 Kearns, I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIC), November 2011.

10 Ibid. p. 18.

11 Kristensen. H & Norris. R, "Chinese nuclear forces, 2011," Bulletin of the Atomic Scientists, November 2011, p. 81.

of land-based systems and nuclear-powered ballistic missile submarines.¹² Estimates in November 2011, published in an article of the *Bulletin of Atomic Scientists*, say China has about 140 land-based nuclear ballistic missiles that can carry one warhead each. China also has additional warheads meant for their submarine launched ballistic missiles (SLBMs) as well as bombs for air delivery.¹³ The warheads are thought to be stored in another location than the missiles and many of the strategic nuclear warheads are intended only for regional use.¹⁴

In all, China is reported to have increased its nuclear weapons systems by about 25% in the last five years. According to the 2011 US Department of Defense's (DoD) annual report to Congress on China, China has the leading land-based ballistic and cruise missile programme in the world.¹⁵ These findings were confirmed in an official threat assessment before the US Senate on 16 February 2012.¹⁶ The 2011 DoD report also states that China is thought to be developing new intercontinental ballistic missiles (ICBM) with multiple independently targetable re-entry vehicles (MIRV) capability "as well as anti-satellite weapons, decoys, and jamming and thermal shielding technologies[.]"¹⁷

China has also been reported to be replacing its first generation ballistic nuclear missile-carrying submarines. In March 2011 two SSBNs were seen at Xiaopingdao submarine base and satellite pictures taken by the Pentagon indicated that China has already launched three Jin-class SSBNs and have more under construction. In actual numbers the current three Jin-classed SSBNs could carry 36 missiles (12 each), which is an increase from the maximum of 12 SLBMs that the old Xia-class submarine could carry.¹⁸

Qualitative:

China's white paper from March 2011 states, "Following the principle of building a lean and effective force, the PLA Second Artillery Force (PLASAF) strives to push forward its modernization and improves its capabilities in rapid reaction, penetration, precision strike, damage infliction, protection, and survivability, while steadily enhancing its capabilities in strategic deterrence and defensive operations."¹⁹

Some analysts have argued that China is currently modernizing its sea-based strategic force in order to secure a second-strike force.²⁰ The 2011 DoD White Paper states that "the PLA Navy (PLAN) endeavours to accelerate the modernization of its integrated combat forces, enhances its capabilities in strategic deterrence and counterattack, and develops its capabilities in conducting operations in distant waters and in countering non-traditional security threats."²¹

Security doctrines and policies

China reaffirmed its no first use and negative security assurance policy in the 2011 white paper. The white paper does not indicate any change in China's security doctrine and the role of nuclear weapons has not been reduced.

12 Kearns. I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIS), November 2011, p. 1.

13 Kristensen. H & Norris. R, "Chinese nuclear forces, 2011", *Bulletin of the Atomic Scientists*, November 2011, p. 81.

14 "Status of World Nuclear Forces", Federation of American Scientists (FAS), June 2011.

15 "Military & security development's Involving the People's Republic of China 2011", Department of Defense United States of America, 2011, pp. 2-3.

16 "(U)Annual Threat Assessment - Statement before the Senate Armed Service Committee United States Senate", Defense Intelligence Agency, 16 February 2012, <http://www.armed-services.senate.gov/statemnt/2012/02%20February/Burgess%2002-16-12.pdf>.

17 Ibid.

18 Kristensen. H & Norris. R, "Chinese nuclear forces, 2011", *Bulletin of the Atomic Scientists*, November 2011, p. 84

19 "China's National Defense in 2010", *English.news.cn*, 21 March 2011.

20 Zhang.H, "China's Nuclear Weapons Modernization: Intentions, Drivers, and Trends", Kennedy School of Government Harvard University, July 2012, p. 4 <http://belfercenter.ksg.harvard.edu/files/ChinaNuclearModernization-hzhang.pdf>.

21 "China's National Defense in 2010", *English.news.cn*, 21 March 2011.

France

France has both a sea- and air-based nuclear capability and has announced a total nuclear stockpile of about 300 weapons.²² 240 of the 300 warheads are for deployment on the four French nuclear submarines.

Quantitative:

In 2010 the second generation of the Le Triomphant-class SSBNs submarines was completed. As a result France has reduced its nuclear fleet from five to four boats.

From the last estimates made on France's nuclear capacity, 80% of France's 300 nuclear warheads are for delivery on three ballistic missile submarines and the remaining warheads are on cruise missiles for delivery by land- and sea-based strike aircraft. The French stockpile is expected to decrease to around 290 warheads within the next few years.²³ France has stated that it has no additional nuclear reserves, although FAS estimates that it does have a small inventory of spare warheads.²⁴

Qualitative

The new Le Triomphant submarines are a modernization of France's sea-based nuclear deterrent and will ensure that it can maintain its capability until the 2030s.²⁵ The submarines are reportedly superior to the ones being replaced. The new submarines are quieter and the M45 missiles are gradually being replaced with newer and longer-range M-51 missiles. The M-51s will be modified, starting in 2015, to the Tête nucléaire océanique.²⁶ In addition to modernizing its submarine-based nuclear forces, France is also introducing a new and more capable delivery platform to its nuclear air force. This modernization is expected to result in a quantitative reduction of nuclear-capable aircrafts. France is also introducing a new nuclear warhead to its air-based nuclear deterrent (Tête nucléaire aéroportée) as it is to its sea-launched ballistic missiles.²⁷

Security doctrines and policies

France relies on its nuclear capacity to protect the country's "independence and strategic autonomy" as well as to defend its "vital interests," which former French President Sarkozy described as "identity and our existence as a nation-state, as well as our capacity to freely exercise our sovereignty".²⁸ It is clear that the French government counts on nuclear weapons to protect its territory from a potential attack and believes them to be a good deterrent. President Sarkozy has stressed that to be particularly true in the case of aggressions against France by another state.²⁹ France has not adopted a 'no-first-use' policy and President Hollande said its deterrent force would protect France against all threats and allow it to "play a strong role on the world stage".³⁰

France has not released any new nuclear policy since the adoption of the 2010 NPT Action Plan and there is no indication that France reduced the role of nuclear weapons in its security doctrine.

22 See: Sarkozy, N, "Presentation of SSBM- "Le Terrible"", French Embassy in London, 21 March 2008: <http://www.ambafrance-uk.org/President-Sarkozy-s-speech-at,10430.html>

23 Kristensen, H, "French Nuclear Forces", FAS Strategic Security Blog, 5 September 2011.

24 Status of World Nuclear Forces, Federation of American Scientists (FAS), June 2011.

25 Kearns, I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIS), November 2011.

26 Ibid.

27 Ibid, p. 20.

28 Ibid, p. 21.

29 Ibid, p. 21.

30 "France Won't Give up Nukes: President", Global Security Newswire, 9 January 2013.

Russia

Russia is estimated to have a total stockpile of 8,500 nuclear warheads, of which about 4,000 are awaiting dismantlement. Russia is also engaging in an extensive modernization of its strategic forces, as part of a broader rearmament programme focusing on various military systems in 2011–2020. During that time about 10% of the total funds allocated for rearmament, around 1.9 trillion rubles, will be spent on the modernization of nuclear weapon systems.³¹

Quantitative

Russia has been retiring some delivery systems, such as old ICBMs, even before the New Strategic Arms Reduction Treaty (START) entered into force. Most of the systems date back to the time of the Soviet Union, therefore the retirement is mainly due to the fact that their life expectancy has been reached. It has retired about 30 SS-25s in 2009 and plans to retire all SS-25s by the year 2015. It also retired 10 SS-19s in 2009, and plans to have them all dismantled, except for 20 of the newest, by 2012. Similar dismantlement is taking place of Russia's SS-18s. BASIC reports that in total Russia has about 170 deployed SS-25s, 70 SS-19s and around 58 SS-18.³² Regarding SS-N-20/R-39 missiles, the US embassy in Russia announced on Twitter that both countries had completed elimination of this missile-type.³³

Due to the retirement of older categories of ICBMs over the last few years, Russian numbers for these categories are already below the limits set by New START.³⁴ Data exchange under New START indicates that Russia has, as of 30 November 2012, 1,499 warheads deployed on 491 strategic delivery vehicles and 884 deployed and non-deployed launchers of ICBMs, SLBMs and heavy bombers.³⁵ This means that in the period between 5 February 2011 and 30 November 2012, Russia has decreased its nuclear deployed delivery vehicles by 30, and its deployed warheads with 38 warheads and increased its deployed and non-deployed launchers by 19.³⁶ Russia is still under the allowed 700 deployed missiles and bombers, which is the limit of New START.³⁷

Counting all of Russia's warheads, including those not covered by New START, FAS has estimated that Russia has about 8,500 nuclear warheads. Russia's ballistic missiles can deliver multiple warheads. Bombers are normally not equipped with nuclear weapons and only a couple hundred weapons are at base and the rest in storage. The estimate that Russia has 4,430³⁸ warheads in reserve may be higher if the strategic bomber weapons are included. In addition to the reported military stockpiles, 5,500 retired warheads are estimated to be waiting to be dismantled.³⁹ A vague estimate has been made that Russia is dismantling 1,000 retired warheads per year.⁴⁰ When US President Obama pledged during his State of the Union speech on 12 February 2013 to "engage Russia to seek further reductions in our nuclear arsenals,"⁴¹ the Russian Foreign Ministry responded that it was ready to study such proposals carefully.⁴²

- 31 Podvig. P, "Russia," In *Assuring destruction forever: nuclear weapon modernization around the world*, Reaching Critical Will, 2012, pp. 63-64.
- 32 Kearns. I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIC), November 2011, p. 15.
- 33 "Elimination of R-39/SS-N-20 missiles", RussianForces.org, 18 September 2012.
- 34 Kearns. I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIC), November 2011, p. 15.
- 35 "New Start Treaty Aggregate Numbers of Strategic Offensive Arms", US Department of State, 30 November 2012, <http://www.state.gov/t/avc/rls/201216.htm>.
- 36 Kristensen. H, "New START Aggregate Numbers Released: First Round Slim Pickings", Federation of American Scientists (FAS) Strategic Security Blog, 1 June 2011.
- 37 Thielmann. G, "Op-ed: GOP candidates, what do you say about savings in military budget?", Arms Control Today, August 2011.
- 38 Kristensen. H. & Norris R. S., "Russian nuclear forces, 2012", Bulletin of the Atomic Scientists, March 2012.
- 39 Ibid.
- 40 "Status of World Nuclear Forces", Federation of American Scientists (FAS), June 2011.
- 41 "President Barack Obama's State of the Union Address – As Prepared for Delivery", The White House Office of the Press Secretary, 12 February 2013.
- 42 "Russia ready to study U.S. proposal on nuclear disarmament", Xinhua, 14 February 2013.

Qualitative

Prime Minister Putin announced in February 2012, that Russia should replace its Soviet-built arsenals with modern weapons to counter new evolving threats. One of the reasons given for the military modernization is to be able to respond to the planned US missile shield.⁴³ Under this process, Russia will allocate \$772 billion to a broader military rearmament, which will include 400 new ICBMs and eight SSBN.⁴⁴

Future modernization and upgrading of the ICBMs focuses on deployment of multiple-warhead RS-24 Yars missiles. These ICBMs will replace the currently deployed Topol (SS-25) and UR-100NUTTH (SS-19) missiles. Being a multiple-warhead missile, RS-24 allows Russia to keep the number of deployed warheads at a relatively high level without the need to produce a large number of missiles.⁴⁵ However in December 2012 the Russian Strategic Rocket Forces announced a life-extension plan for older missiles to 2019.⁴⁶ Russia is also working on other ICBM projects. For example, in 2011, the government made a decision to begin development of a new multiple-warhead liquid-fuel ICBM. This new missile is supposed to be ready for deployment in 2018.⁴⁷ As of December 2012, development continues and the commander of the Strategic Rocket Forces expects the Rocket Forces to receive the first missiles in 2019.⁴⁸

Russia is also upgrading its SSBN fleet with a planned construction of eight new submarines, (Borey class) three Project 955, carrying 16 Bulava missiles⁴⁹ and five Project 955A, carrying 20 Bulava missiles⁵⁰. On 30 July 2012 the construction of first 955A was officially inaugurated,⁵¹ while the Project 955 submarines are ready for sea trials or even service.⁵² Russia is working on an overhaul of its current strategic bomber fleet and is also reported to have started preliminary work on a new-generation strategic bomber.⁵³

Russia's modernization plans demonstrate that it is determined to maintain its strategic nuclear forces and to preserve parity with the United States in the number of warheads and delivery systems. Arms control and disarmament efforts could change these plans and result in a smaller force, but it is likely that most of the reductions would be done by reducing the number of deployed warheads rather than by eliminating strategic delivery vehicles.

Security doctrines and policies

Russia's position on nuclear weapons is directly linked to a number of security concerns, such as US ballistic missile defence, US advantage in terms of conventional weapon systems, NATO expansion and in the long run, China's position in the region.⁵⁴ The last Russian military doctrine published was released in February 2010 and states, "The Russian Federation reserves the right to utilize nuclear weapons in response to the utilization of nuclear and other types of weapons of mass destruction against it and (or) its allies, and also 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."⁵⁵

43 "Putin says Russia must replace nuclear weapons", The Independent, 20 February 2012.

44 "Putin Vows to Pursue Enormous Military Rearmament Campaign", The Nuclear Threat Initiative, 12 February 2012.

45 Podvig, P, "Russia," In Assuring destruction forever: nuclear weapon modernization around the world, Reaching Critical Will, 2012, p. 64.

46 "Old missiles to get extension of service life", RussianForces.org, 14 December 2012.

47 "New ICBM contract reportedly went to Makeyev Design Bureau", RussianForces.org, 14 May 2011.

48 "New heavy ICBM expected to be ready in 2019", RussianForces.org, 14 December 2012.

49 The Project 955 submarine is also able to carry long-range cruise missile. For more information see: "Project 955 submarines to carry long-range cruise missiles", RussianForces.org, 11 January 2013.

50 "Construction of first Project 955A submarine officially inaugurated", RussianForces.org, 30 July 2012.

51 Ibid.

52 "Two Project 955 submarines – Vladimir Monomakh launched, Yuri Dolgorukiy postponed", RussianForces.org, 30 December 2012.

53 Podvig, P, "Russia," In Assuring destruction forever: nuclear weapon modernization around the world, Reaching Critical Will, 2012, pp. 60-61 and "Modernization of Tu95MS bombers", RussianForces.org, 20 September 2012.

54 Kearns, I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIC), November 2011, p. 16.

55 "Text of Newly-Approved Russian Military Doctrine", Carnegie Endowment, February 2010.

At the same time as the 2010 military doctrine was released the Russian president approved the "Principles of State Nuclear Deterrence Policy to 2020," but this document has not been released to the public.⁵⁶ In February 2012 the Chief of the Russian General Staff, Nikolai Makarov, said that Russia would use nuclear weapons in response to any imminent threat to its national security. Furthermore, he indicated that Russia's nuclear "deterrent" is the cornerstone of "strategic stability" and Russia is in the course of modernizing the country's nuclear triad.⁵⁷

United Kingdom

The United Kingdom reportedly has a total nuclear weapons stockpile of about 225 warheads, of which not more than 160 are believed to be operational. In its 2010 Strategic Defence and Security Review, the United Kingdom declared that the UK "can meet the minimum requirement of an effective and credible level of deterrence with a smaller nuclear weapons capability."⁵⁸ However the UK government also announced that it could not dismiss the possibility that a major direct nuclear threat to the UK might re-emerge.⁵⁹ Its plan is to retain a "minimum requirement nuclear deterrent out until the 2060s."⁶⁰

Quantitative

In contrast to the other NWS, the United Kingdom only operates a single nuclear weapon delivery system: four Vanguard submarines armed with Trident missiles. Until 2010 each of the Vanguard class submarines carried between 12 and 14 operational Trident II D5 missiles and a maximum of 48 warheads. The UK Ministry of Defence is reducing this "over the next few years" to eight missiles and a maximum of 40 warheads per submarine.⁶¹ This was implemented on one submarine by June 2011.⁶² The decision to deploy 40 warheads on eight missiles will require an increase in warheads per missiles, from three to five.⁶³

Currently the UK maintains some operational warheads in reserve, in addition to those on submarines. In 2010 there were "fewer than 160" operationally available warheads. This is 16 more than the maximum number that could be carried on three armed submarines. Over the next few years the total number of operationally available warheads will be reduced to "no more than 120," which is the same as the new maximum number for three armed submarines.⁶⁴

Qualitative

In May 2011, the UK government decided to move forward with the preparatory work for renewal of its Trident submarine fleet. The "Initial Gate Parliamentary Report" stated that the UK would move forward into the "Assessment Phase," where the design will be finalized and preparation for the main build will take place. In 2016, the government will sign the main construction contracts and also decide whether "continuous at sea deterrence can be delivered by three or four boats."⁶⁵

56 De Haas, M, "Russia's New Military Doctrine: A Compromise Document", Russian Analytical Digest No 78, Institute of History, University of Basel, Switzerland, May 2010.

57 "Putin pledges 400 ICBMs for Russia in ten years", RIANovostro, 20 February 2012.

58 "Securing Britain in an Age of Uncertainty", The Strategic Defence and Security Review, Her Majesty Government, October 2010, p. 38.

59 Ibid p. 55.

60 "The United Kingdom's Nuclear Deterrent: The Submarine Initial Gate Parliamentary Report", May 2011, p. 2.

61 "Securing Britain in an Age of Uncertainty", The Strategic Defence and Security Review, Her Majesty Government, October 2010, p.10.

62 Ainslie, J, "United Kingdom", In "Assuring Destruction Forever; nuclear weapon modernization around the world", Reaching Critical Will, 2012, p. 67.

63 Kristensen, H & Norris, R, "British nuclear forces, 2011", Bulletin of the Atomic Scientists, September 2011, p. 91.

64 "Securing Britain in an Age of Uncertainty", The Strategic Defence and Security Review, Her Majesty Government, October 2010, p.10.

65 "The United Kingdom's Future Nuclear Deterrent: Submarine Initial Gate Parliamentary Report", May 2011, p. 2.

On 22 May 2012 the UK Ministry of Defence announced the award of a contract to BAE Systems, Babcock and Rolls Royce worth £350 million for the design of successor submarines. The key contract, worth £328 million, was awarded to BAE Systems.⁶⁶

On 18 June 2012 the Secretary of State for Defence informed the House that his Ministry had signed a contract with Rolls-Royce Engineering over approximately £1.1 billion for an 11-year programme of work at its nuclear reactor core facility in Raynesway, Derby. The site regeneration will cost about £500 million, the remaining £600 million will sustain reactor core production at the facility until March 2023 including the production of reactor cores for the Astute class and the next generation nuclear deterrent Successor SSBN submarines if approved.⁶⁷

If approved, the delivery of the first submarines will take place in 2028. The former British Secretary of State for Defence, Dr. Liam Fox, said that the new submarine “will incorporate the latest safety technologies and ensure our future nuclear-armed submarines have the performance required to deliver our minimum credible deterrent out until the 2060s.”⁶⁸

Because of financial constraints, the UK’s decision on the final outcome of Britain’s new Trident system has been put off until the next election in 2015.⁶⁹ Despite the fact that no formal decision has been made on the outcome of the project for new submarines, the Ministry of Defence is already spending £2 billion on new nuclear weapons plans. The plans include a £734 million facility for dismantling and assembling of warheads, a 634 million plant that will handle enriched uranium and a £231 million high explosive factory. Other similar facilities are being built as part of the Atomic Weapon Establishment development plan covering 2005 to 2015 and the cost of two more are being kept secret for commercial reasons. The new spending has caused some debate in the UK on how crucial military spending decisions can be pushed through parliament without a proper parliamentary procedure.⁷⁰

In December 2012 the UK Ministry of Defence published the first progress report on the Successor deterrent submarine programme as a follow-up report on the “Initial Gate Parliamentary Report”. The report gives a superficial summary of the above-mentioned developments and does not include the £1 billion pounds per year expenditure on Aldermaston.⁷¹

Security doctrines and policies

While stating that the UK should retain a “credible, continuous and effective minimum nuclear deterrent,”⁷² the government also restated that the UK makes clear that it will only use their weapons in extreme circumstances of self-defence, including the defence of its NATO allies. The 2010 Strategic Defence and Security Review also stated that the United Kingdom would retain and renew its independent nuclear deterrent—“the United Kingdom’s ultimate insurance policy in this age of uncertainty.”⁷³

The “minimum nuclear deterrent” policy made in 2010 was also mentioned in the 1998 Defence Review that was updated in 2003. The 1998 Review stated: “We will retain our nuclear deterrent with fewer warheads to meet our twin challenges of minimum credible deterrence backed by a firm

66 “Submarines to succeed: replacing Trident”, Naval-technology.com, 2 July 2012, <http://www.naval-technology.com/features/featuresubmarines-succeed-replacing-vanguard/>.

67 Secretary of State for Defence, “Written Ministerial Statements: Defence, Nuclear Powered Submarines”, 18 June 2012, <http://www.publications.parliament.uk/pa/cm201213/cmhansrd/cm120618/wmstext/120618m0001.htm#1206181000007>.

68 “The United Kingdom’s Future Nuclear Deterrent: The Submarine Initial Gate Parliamentary Report”, May 2011.

69 North-Taylor. R, “Trident more effective with US arming device, tests suggest”, the Guardian, 6 April 2011.

70 Edwards. R, “MoD spends £2BN on nuclear weapons ahead of Trident renewal decision”, The Guardian, 27 November 2011; Briefing Note “Project Pegasus – AWE Aldermaston’s proposed Enriched Uranium Facility”, Nuclear Information Service, November 2009; for more details on the coalition debate on Tridents see: “Divided over Trident: The Coalition is at odds over plans for new nuclear submarines”, The Economist, 23 June 2012.

71 Ministry of Defence, “The United Kingdom’s Future Nuclear Deterrent: 2012 Update to Parliament”, December 2012.

72 “Securing Britain in an Age of Uncertainty”. The Strategic Defence and Security Review, Her Majesty Government, October 2010, p. 8.

73 “Securing Britain in an Age of Uncertainty”. The Strategic Defence and Security Review, Her Majesty Government, October 2010, p. 8.

commitment to arms control.”⁷⁴ Furthermore the 1998 Review states that the UK will “not use nuclear weapons against a non-nuclear weapon state not in material breach of its nuclear non-proliferation obligations, unless it attacks us, our Allies or a state to which we have a security commitment, in association or alliance with a nuclear weapon state.”⁷⁵ Although the concept of a “minimum nuclear deterrent” is not new for a UK security policy, the language in the 2010 Strategic Defence and Security Review is stronger in language than previous reviews.

United States

As of December 2012, the United States is reported to have a total nuclear weapons stockpile of 7,700 warheads, of which about 2,500 warheads are awaiting dismantlement.⁷⁶ On 8 April 2010, President Obama and President Medvedev signed the New Strategic Arms Reduction Treaty (START). Under New START the US has until February 2018 to reduce its nuclear capacity from 1,950 to 1,550 deployed nuclear warheads and limit its deployed missiles strategic launchers and heavy bombers to 700.⁷⁷

Quantitative:

In accordance with the obligations under New START, in 2011 the US was reportedly planning to maintain up to 420 land-based ICBMs, each equipped with one warhead each, 240 SLBM with multiple warheads each, deployed on a fleet of 12-14 SSBNs, and finally 60 heavy bombers, long-range B-2s and B-52s,⁷⁸ with capability to deliver gravity bombs or cruise missiles.⁷⁹ In accordance with the US’ plans for its land-based ICBM force, this means that many of the warheads attached to the ICBMs today will be removed from the missiles. The removed warheads will not necessarily be destroyed, but kept in storage.⁸⁰

The Arms Control Association estimates that the current US nuclear delivery systems will remain operational for another 20–30 years.⁸¹ As of 30 November 2012, the United States deployed 1,722 warheads on 806 strategic delivery vehicles and 1,034 deployed and non-deployed launchers.⁸² This is a reduction of 78 warheads, 76 delivery vehicles, and 90 deployed and non-deployed launchers since 5 February 2011.⁸³ By adding the numbers of warheads not covered by New START, the United States possesses around 8,000 warheads.⁸⁴

The Obama administration is currently carrying out a Nuclear Posture Review (NPR) Implementation Study, which could open up space for further reductions of its arsenal.⁸⁵ The administration has been reported to be “making preparations for the next round of nuclear reductions.”⁸⁶ In his State of the Union address on 12 February 2013, President Obama announced that he will engage with Russia “to seek further reductions” in their nuclear arsenals.⁸⁷ No numbers were discussed in the State of

74 “Strategic Defence Review”, Ministry of Defence, July 1998, point 8.

75 Ibid.

76 “Status of world nuclear forces”, Federation of American Scientists, <http://www.fas.org/programs/ssp/nukes/nuclearweapons/nukestatus.html>

77 Kristensen. H, “New START Aggregate Numbers Released: First Round Slim Pickings”, FAS Strategic Security Blog, 1 June 2011.

78 Collina. T & Kimball. D, “Time to Rethink and Reduce Nuclear Weapons Spending”, Arms Control Today, December 2011.

79 Kearns. I, “Beyond the United Kingdom: Trends in the Other Nuclear Armed States”, British American Security Information Council (BASIS), November 2011, p. 10.

80 Ibid.

81 Collina. T & Kimball. D, “Time to Rethink and Reduce Nuclear Weapons Spending”, Arms Control Today, December 2011.

82 “New START Treaty Aggregate Numbers of Strategic Offensive Arms”, U.S Department of States official webpage, 30 November 2012.

83 Comparison between the 1 June New Start Treaty Aggregate Numbers of Strategic Offensive Arms to the one available on 25 October.

84 “Status of World Nuclear Forces”, Federation of American Scientists (FAS), May 2012.

85 “U.S. Blueprint for New Nuclear Arms Cuts Expected By Year’s End”, Global Security Newswire, 8 November 2011.

86 Kristensen. H & Norris. R, “Reviewing Nuclear Guidance: Putting Obama’s Words Into Action”, Arms Control Association, November 2011.

87 “President Barack Obama’s State of the Union Address – As Prepared for Delivery”, The White House Office of the Press Secretary, 12 February 2013, <http://www.whitehouse.gov/the-press-office/2013/02/12/president-barack-obamas-state-union-address>.

the Union address, but White House officials are quoted to be discussing cuts that would take the US arsenal to just above 1,000 deployed nuclear weapons.⁸⁸ Russia is reportedly ready to study such proposals carefully.⁸⁹

Qualitative

While reductions under New START are taking place, in 2010 Secretary of Defense Robert Gates and Admiral Mike Mullen stated, "Over the next decade, the United States will invest well over \$100 billion in nuclear delivery systems to sustain existing capabilities and modernize some strategic systems. US nuclear weapons will also undergo extensive life extension programmes in the coming years to ensure their safety, security, and effectiveness."⁹⁰

The ratification of New START by the US Senate included a 10-year plan to maintain US nuclear warheads supporting infrastructure. The plan called for \$80 billion over ten years to spend on activities for the National Nuclear Security Administration, and \$100 billion in spending on maintaining and modernizing US nuclear delivery systems.⁹¹

In July 2012 increased costs for the B61 life extension project were announced, adding to a current total of \$10 billion. The project consolidates the existing B61-3, B61-4, B61-7 and B61-10 to one improved model of the B61-4, the B61-12. FAS estimates that about 400 B61-12s are planned, resulting in \$28 million per bomb including the cost of tail kit.⁹²

Security doctrines and policies

The US 2010 Nuclear Posture Review (NPR) states that the US will keep relying on its nuclear weapons as an important part of its national security and will also do this for the foreseeable future.⁹³ In spite of this, the NPR states that US capacity in conventional weapons together with major improvements in missile defence has enabled the US to rely less on nuclear weapon without jeopardizing its "deterrence".⁹⁴ The NPR also states that with the changing security climate the US will "better align" its nuclear policies, so it can better deal with other priorities such as preventing nuclear terrorism and nuclear proliferation. It acknowledges that nuclear weapons are not adequate to address today's main security threats, such as terrorism and other countries seeking nuclear weapons.⁹⁵ Furthermore the NPR specifically addresses the reduction of the role of nuclear weapons in the US national security strategy.⁹⁶

The 2002 NPR was not publicly released due to classification considerations. The 2010 NPR foreword states that the NPR "puts in motion a major change in our approach to the role of nuclear offensive forces in our deterrent strategy and presents the blueprint for transforming our strategic posture."⁹⁷ Since no information is publicly available it is difficult to compare the two NPRs. However, the 2010 NPR does introduce some new elements, in particular by stating that the fundamental role of nuclear forces is to deter a nuclear attack.

88 Sanger, D., "Obama to Renew Drive for Cuts in Nuclear Arms", The New York Times, 10 February 2013.

89 "Russia ready to study U.S. proposal on nuclear disarmament", Xinhua, 14 February 2013.

90 Kearns, I., "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIC), November 2011, p. 11.

91 "New START and Nuclear Modernization", Center for Arms Control and Non-Proliferation, viewed on 3 April 2012.

92 Kristensen, H. "B61-12: NNSA's Gold-Plated Nuclear Bomb Project", FAS Strategic Security Blog, 26 July 2012.

93 "Nuclear Posture Review report", Department of Defense United States of America, April 2010, p. 1.

94 Ibid p. 6.

95 Ibid, p. v.

96 Ibid, p. iii.

97 "Nuclear Posture Review Report", U.S. Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), March 2002.

The US has not made any further reductions of the role of nuclear weapons in its nuclear posture review since the adoption of the 2010 NPT Action Plan. However in its 2012 assessment of priorities the US Defense Department stated “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.”⁹⁸

Later that year on 26 March 2012, President Obama said in his speech before students of the Hankuk University in Seoul that the US government had narrowed the contingencies under which they would ever use or threaten to use nuclear weapons. However, he also emphasised that “so long as nuclear weapons exist”⁹⁹ the US government will work with Congress “to maintain a safe, secure and effective arsenal that guarantees the defense”¹⁰⁰ of the US and its allies.

New START

The US senate ratified New START in December 2010 and the Russian Federal Assembly in January 2011.¹⁰¹

By September 2011 the United States and the Russian Federation had conducted more than 1,000 notifications under the Treaty since its entry in to force in February 2011. The notifications track the movement and changes in the status of treaty-covered systems, for example if a heavy bomber were to be out of its home territory for more than 24 hours.¹⁰² The US and Russia have each conducted 37 on-site inspections since February 2011.¹⁰³ This is the first time that the two countries have exchanged data on re-entry vehicle loadings. The two countries have also, under the Treaty, to exchange a comprehensive database, every six months, of exactly where weapons systems are located if they are undergoing maintenance or have been retired.¹⁰⁴

Three sessions of the Bilateral Consultative Commission under New START took place in Geneva on 19 October–2 November 2011, 24 January–7 February and 11-21 September 2012. During these consultations, the United States and Russia discussed a number of practical issues related to the implementation of the Treaty.¹⁰⁵ During the third session of consultations the United States and Russia agreed on the sharing of telemetric information and other issues relating to ICBMs and SLBMs.¹⁰⁶

However, New START has some problematic aspects. For example the aggregate numbers do not cover thousands of additional warheads that are not counted by the Treaty (non-deployed and non-strategic warheads).¹⁰⁷ Furthermore dual-capable bombers are counted as both one delivery vehicle and one warhead.¹⁰⁸ Each bomber is also counted as only carrying one warhead, which means that “[a] force of 60 bombers loaded at their maximum capacity of 1,136 bombs and cruise missiles would only count as 60 weapons.”¹⁰⁹

98 Pentagon, “Sustaining US Global Leadership: Priorities for 21st Century Defense”, US Defense Department, 3 January 2012, p. 5.

99 Obama, B., “Remarks by President Obama at Hankuk University”, 26 March 2012.

100 Ibid.

101 Arbatov, A, “Gambit or Endgame?”, the New State of Arms Control, Carnegie Moscow Center, March 2011, p. 3.

102 “State’s Gottemoeller at 2012 Deterrence Symposium”, U.S. Department of State, 9 August 2012 and “New START Treaty Inspection Activities”, U.S. Department of State, 11 February 2013.

103 Number provided by Jamie F. Mannina, U. S. Department of State, Washington D.C., Special Assistant for Public Affairs and Public Diplomacy.

104 Collina, T, “New START Hits 1,000 Notifications”, Arms Control Today, September 2011.

105 “U.S.-Russia Bilateral Consultative Commission on the New START Treaty”, Washington, DC, November 2011; Media Note: “Third Session of the Bilateral Consultative Commission Under the New START Treaty”, U.S. Department of State, 7 February 2013; and Media Note: “The Fourth Session of the Bilateral Consultative Commission Under the New START Treaty”, U.S. Department of State, 21 September 2012.

106 “Third Session of the Bilateral Consultative Commission Under the New START Treaty”, U.S. Department of State, 7 February 2013.

107 Kristensen, H, “New START Data: Modest Reductions and Decreased transparency”, FAS Strategic Security Blog, 24 October 2011.

108 “Nuclear Posture Review”, Department of Defense United State of America, April 2010, p. 21.

109 Kearns, I, “Beyond the United Kingdom: Trends in the Other Nuclear Armed States,” British American Security Information Council (BASIS), November 2011, p. 10.

The New START verification regime is, in comparison to START I, less intrusive and burdensome. This is largely because the New START ceilings and limitations are relatively simple.¹¹⁰ Furthermore the Treaty does not include the Russian Federation's estimated 2,000 and the United States' 200 tactical nuclear weapons in Europe.¹¹¹

The issue of missile defence has further complicated discussions on follow-on measures in relation to New START. The 2010 NATO decision to push ahead with the alliance's missile "defence" project has created tension between Russia and NATO-members.¹¹² On 24 November 2011 Russia announced that it "reserves the right to discontinue further disarmament and arms control measures," such as withdrawal from New START and deployment of new nuclear weapons if the US progresses with its anti-missile plans in Europe without Russian cooperation.¹¹³ In its latest Deterrence and Defence Posture Review from May 2012 NATO stated, that its "missile defence is not oriented against Russia nor does it have the capability to undermine Russia's strategic deterrent."¹¹⁴

France-UK

In November 2010, France and the United Kingdom joined in a collaboration of developing equipment and technologies for the next generation of nuclear submarines. The co-operation is aimed to "sustain their combined industrial base" and "generate savings".¹¹⁵ The cooperation also includes a new warhead simulation facility that will open in 2015 and a joint Technology Development Centre in Britain to provide scientific and engineering expertise to support both countries stockpile.¹¹⁶

United Kingdom-United States

Since 1958 the United States and the United Kingdom have been collaborating on the basis of the US-UK Mutual Defence Agreement. The agreement was last renewed in 2004 and extends to 2014. The Agreement enables the US and the UK to exchange classified information with the objective of improving each party's nuclear weapons design, development, and fabrication capability.

The nuclear warhead deployed on the UK submarines today is partly American made. The UK has also purchased 58 Tridents missiles out of the existing American pool of missiles.¹¹⁷

In December 2006, after an exchange of letters between President Bush and Prime Minister Blair on the renewal/replacement of Trident, a new wave of enhanced collaborations with the US into how to refurbish or replace the UK Trident warhead began.¹¹⁸ The two countries are also working together to develop the new ballistic-missile submarines. If the renewal goes ahead as planned, the first British vessel is due to enter service in 2024 and the last could still be at sea in 2060. The first new US submarine is scheduled for 2027 and some of the vessels are due to remain in service until 2080.¹¹⁹

Successful tests have been carried out in the US on a new warhead firing system to arm Britain's nuclear missiles, making them more accurate and more capable. Because of the very close collaboration and dependence of US technology components the UK's Trident system is very dependent on the US, which could complicate further reductions.¹²⁰

110 Arbatov. A, "Gambit or Endgame?", the New State of Arms Control, Carnegie Moscow Center, March 2011, p. 12.

111 Ibid.

112 Borgers. J, "Nato offers Russia a shared 'security roof'", the Guardian, 27 March 2010.

113 Medvedev. D, "Russia will deploy deterrent to Nato missile shield", the Guardian, 24 November 2011.

114 "Deterrence and Defence Posture Review", North Atlantic Treaty Organization, 20 May 2012, par. 21.

115 UK-France Summit 2010 Declaration on Defence and Security Co-operation, 2 November 2010.

116 Kristensen. H & Norris. R, "British nuclear forces, 2011", Bulletin of the Atomic Scientists, September 2011, p. 93.

117 Ritchie. N, "Trident: Still the Wrong Weapon at the Wrong Time for the Wrong Reasons", the Acronym Institute, 2009.

118 Ainslie, J, "US-UK Nuclear Sharing", Beyond Arms Control, Reaching Critical Will, 2010, p. 48.

119 Ibid, p. 51.

120 North-Taylor. R, "Trident more effective with US arming device, tests suggest", the Guardian, 6 April 2011.

P5 initiatives

On 30 June–1 July 2011, the five NWS met in Paris for a meeting to discuss nuclear non-proliferation and disarmament for the first time since the adoption of the 2010 NPT Action Plan. The meeting focused on transparency, nuclear doctrines, and verification. Furthermore the P5 approved the establishment of a working group that will pursue work on definitions for key nuclear terms, in order to facilitate future consultations and discussions.¹²¹ They met again in June 2012 in Washington to further discuss above-mentioned issues, and have announced that Russia will host the next P5 conference in Geneva, Switzerland, in the context of the 2013 NPT Preparatory Committee.¹²² Since no concrete outcomes have been announced, it is difficult to evaluate the progress.¹²³

The 2011 and the 2012 meetings did not seem to include any specific proposal or discussions on nuclear doctrines. At the United Nations General Assembly's (UNGA) First Committee in 2011¹²⁴ and 2012¹²⁵, several delegations voiced concerns over the lack of progress in these meetings.

North Atlantic Treaty Organization (NATO)

The alliance retains around 200 American B-61 nuclear weapons on American bases in five¹²⁶ NNWS of the NPT. These arrangements have been criticized repeatedly as being not in compliance with the NPT's non-proliferation obligations.

At NATO's Lisbon Summit in November 2010, NATO adopted a new Strategic Concept and a Summit Declaration that outline the alliance's future nuclear policy. In the new concept, titled "Active Engagement, Modern Defence," NATO for the first time commits itself to "create the conditions for a world without nuclear weapons". The concept explains that this goal must be pursued "in accordance with the goals of the Nuclear Non-Proliferation Treaty, in a way that promotes international stability, and is based on the principle of undiminished security for all." At the same time, the Strategic Concept states, "as long as nuclear weapons exist, NATO will remain a nuclear alliance."

As for the nuclear weapon states in NATO: France has been reluctant to include any forward-looking language on nuclear disarmament in the NATO Strategic Concept. According to France, many NATO countries are too focused on disarmament and therefore are losing sight of the security angle.¹²⁷ France has also been the biggest opponent to the German-led demand for a greater nuclear disarmament effort from NATO.¹²⁸

NATO members conducted a Defence and Deterrence Posture Review (DDPR) in order to define an "appropriate mix" between nuclear and conventional weapons and missile defence needed to uphold Alliance commitments to collective self-defence. The DDPR process was initiated by the 2010 NATO Strategic Review.¹²⁹ During the first phase of the DDPR process an initiative by ten member states¹³⁰ offered suggestions on how to collaborate with Russia on the issue of tactical nuclear weapons (TNW).¹³¹ The terms of reference for the process were agreed earlier in 2011 and the process was meant to be concluded by the time of the NATO summit in Chicago from 20 to 21 May 2012. However, the meeting with Russia is currently on hold because of the conflict regarding

121 Ibid.

122 Statement by US Ambassador Kennedy to the Conference on Disarmament, 29 January 2013, Geneva, Switzerland. http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2013/Statements/22Jan_US.pdf.

123 Final Joint Press Statement, Third P5 conference: Implementing the NPT, Washington, 29 June 2012, <http://www.state.gov/r/pa/prs/ps/2012/06/194292.htm>.

124 Acheson. R, "Nuclear Disarmament", First Committee Monitor, Reaching Critical Will October 2011.

125 Acheson. R, "Nuclear Disarmament", First Committee Monitor, Reaching Critical Will, October 2012.

126 Belgium, Germany, Italy, Netherlands and Turkey.

127 Ibid, p. 21.

128 Traynor. I, "Germany demands NATO show greater commitment to nuclear disarmament", The Guardian, 14 October 2010.

129 "Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organization", NATO, November 2010.

130 Belgium, Czech Republic, Germany, Hungary, Iceland, Luxembourg, Netherlands, Norway, Poland and Slovenia.

131 Kristensen. H, "10 NATO Countries Want More Transparency for non-Strategic Nuclear Weapons", FAS Strategic Security Blog, April 2011.

the issue of missile “defence”.¹³² The 2012 DDPN concluded that NATO’s nuclear force posture met “the criteria for an effective deterrence and defence posture”¹³³ and nuclear weapons are declared a “core component” of its overall capabilities.¹³⁴

NATO security doctrines and policies

During the Lisbon summit, NATO affirmed its commitment to a goal of a world without nuclear weapons. This commitment is new, but when comparing the document to the previous Strategic Concept from 1999, there is no sign of a reduction of the role of nuclear weapons. However, there are increasing signs from numerous NATO member states¹³⁵ that there is greater scepticism towards NATO’s relationship to nuclear weapons, in particular to the current deployed TNW on US NATO bases in Europe¹³⁶. According to IKV Pax Christi’s report on views on TNW by NATO member, 24 of the 28 member states said they would not oppose the removal of the TNW in Europe. Only France, Hungary, and Lithuania are supporting the status quo and Albania expressed no opinion in this matter. France is also the only NATO member that is more pessimistic regarding the pursuit of nuclear disarmament and will therefore only agree to create the “conditions” for this goal.¹³⁷ The 2012 DDPN repeated those positions.¹³⁸

Regarding negative security assurances the 2012 DDPN acknowledges the unilateral commitments made by the three NWS members to NATO and recognised the conditions each state attached to them, such as the right to self-defence.¹³⁹

Non-strategic nuclear weapons

United States and NATO

In preparation for the NATO summit in 2010, the United States announced that its non-strategic weapons, deployed in Europe, would not be unilaterally withdrawn.¹⁴⁰ These weapons are as of yet under no international arms control regime. US President Obama stated at the signing ceremony of New START that his administration is interested in further discussions with Russia on reducing both strategic and tactical weapons. No such discussions have yet taken place.

Furthermore, the US-NATO nuclear capacity is undergoing modernization. The 2010 Nuclear Posture Review announced that the United States would be retiring all nuclear Tomahawk land attack sea-launched cruise missiles, half of which were earmarked for NATO support. However, the NPR also announced plans on making the F-35 Joint Strike Fighter (JSF) aircraft nuclear-capable so that the US can replace the F-15E and F-16. Two states with NATO nuclear strike missions, Italy and the Netherlands, are planning on acquiring JSF aircraft over the next 15 years. This modernization project is estimated to cost several hundred million dollars.¹⁴¹ In its 2012 Deterrent and Defense Posture Review (DDPN) NATO declared that “Allies concerned will ensure that all components of NATO’s nuclear deterrent remain safe, secure and effective,”¹⁴² which in this context is seen as a “green light” for the modernisation of the B-61s currently also deployed in Europe.¹⁴³

132 As discussed under the section on the START treaty.

133 “Deterrence and Defence Posture Review”, North Atlantic Treaty Organization, 20 May 2012, par.8.

134 Ibid.

135 Including Belgium, Germany, Netherlands, Luxembourg, and Norway.

136 Belgium, Germany, Italy, Netherlands, and Turkey.

137 Snyder. S & van der Zeijden. W, “Withdrawal Issues”, IKV Pax Christi, March 2011, p. 12.

138 “Deterrence and Defence Posture Review”, North Atlantic Treaty Organization, 20 May 2012, par. 24.

139 Ibid, par. 10.

140 Borgers. J, “Nato experts group say US nukes should stay in Europe”, the Guardian, 29 March 2010.

141 Snyder. S & van der Zeijden. W, “Withdrawal Issues”, IKV Pax Christi, March 2011, p. 71.

142 “Deterrence and Defence Posture Review”, North Atlantic Treaty Organization, 20 May 2012, par.11.

143 Hogebrink L., “NATO’s Deterrence and Defence Posture Review shows that consensus is not possible”, No Nukes, May 2012.

In comparison with the 1999 NATO Strategic Concept document, the 2010 version places less importance on US TNW as an essential military and political link between Europe and North America. However, the new NATO concept makes further reductions in US nuclear weapons in Europe conditional on reciprocal actions by Russia. This has not been the language used in the 1999 report, in which the US discussed removal without mentioning Russia.¹⁴⁴ Previously, Russia has stated that the US would have to remove all of its TNW from Europe before it would even consider discussions on its own TNW. The argument for this has been that since the breakup of the Soviet Union, Russia took sole responsibility for collecting all USSR nuclear weapons spread out in the former Soviet Union states and Russia has been waiting for the US to do the same with its European TNW.¹⁴⁵ The new 2012 DDPN could not agree on the removal of the non-strategic weapons from Europe and as before tied any further “significant reductions”¹⁴⁶ to reciprocal actions by Russia.¹⁴⁷

In addition to the 200 tactical nuclear weapons in Europe, the United States has also around 560 tactical nuclear weapons in storage on American soil.¹⁴⁸

Russia

Official information on the Russian non-strategic nuclear weapons or TNW is rare and to a great deal based on estimations by experts. According to FAS all operational non-strategic weapons are declared to be in central storage.¹⁴⁹

In an article in the *Bulletin of the Atomic Scientists* more detailed estimations are made.¹⁵⁰ According to the authors, the total number of Russian non-strategic nuclear weapons is estimated to be around 2,000 nuclear warheads. Of those warheads, 730 are assigned to non-strategic aircrafts, 700 to naval forces and 100-200 remain for short-range ballistic missiles and 300-400 are assigned to air-defence forces. Additionally a small force of nuclear-capable ground-launched cruise missiles is retained by Russia for coastal defence.¹⁵¹

These non-strategic nuclear weapons are believed to be stored in about a dozen different storage facilities. They are located in central and western Russia as well as on the Kola Peninsula relatively close to bases with delivery systems.¹⁵²

144 Snyder, S & van der Zeijden, W, “Withdrawal Issues”, IKV Pax Christi, March 2011, p. 72.

145 Ibid, p. 20.

146 “Deterrence and Defence Posture Review”, North Atlantic Treaty Organization, 20 May 2012, par.27.

147 Ibid.

148 Kristensen, H, “10 NATO Countries Want More Transparency for non-Strategic Nuclear Weapons”, FAS Strategic Security Blog, April 2011.

149 “Status of World Nuclear Forces, and Global Nuclear Weapons Inventory 1945-2010”, Federation of American Scientists, 18 December 2012, Footnote b.

150 Kristensen, H. and Norris, R. “Nonstrategic nuclear weapons 2012”, Bulletin of the Atomic Scientists, September 2012.

151 Ibid, pp. 98-100.

152 Ibid, p. 98 and Norris, R. and Kristensen, H. “Worldwide deployments of nuclear weapons 2009”, Bulletin of the Atomic Scientists, November 2009, pp. 92-94.

UNGA First Committee resolutions on nuclear weapons¹⁵³

The UNGA First Committee annually discusses and adopts resolutions on nuclear disarmament issues. The table below shows the changes in support for the most important resolutions since the adoption of the NPT Action Plan in 2010.

2009	2010	2011	2012
A/RES/66/46: Follow-up to the advisory opinion of the International Court of Justice on the <i>Legality of the Threat or Use of Nuclear Weapons</i>.			
Yes: 126 No: 29 Abstain: 22	Yes: 121 No: 27 Abstain: 22	Yes: 127 No: 25 Abstain: 22	Yes: 123 ¹ No: 24 ² Abstain: 24 ³
A/RES/66/57: Convention on the Prohibition of the Use of Nuclear Weapons			
Yes: 116 No: 50 Abstain: 11	Yes: 107 No: 48 Abstain: 11	Yes: 113 No: 48 Abstain: 10	Yes: 110 ⁴ No: 47 Abstain: 10 ⁵
A/RES/66/51: Nuclear disarmament			
Yes: 112 No: 43 Abstain: 21	Yes: 107 No: 44 Abstain: 20	Yes: 113 No: 44 Abstain: 18	Yes: 111 ⁶ No: 43 ⁷ Abstain: 20 ⁸
A/RES/66/32: Promotion of multilateralism in the area of disarmament and non-proliferation			
Yes: 126 No: 5 Abstain: 49	Yes: 111 ⁶ No: 4 Abstain: 49	Yes: 120 No: 4 Abstain: 49	Yes: 119 ⁹ No: 4 Abstain: 49 ¹⁰
A/RES/66/45: United action towards the total elimination of nuclear weapons			
Yes: 161 No: 2 Abstain: 8	Yes: 154 No: 1 Abstain: 13	Yes: 156 No: 1 Abstain: 15	Yes: 159 ¹¹ No: 1 Abstain: 12 ¹²
A/RES/66/28: Follow-up to nuclear disarmament obligations agreed to at the 1995, 2000 and 2010 Review Conferences of the Parties to the NPT.			
Yes: 105 No: 56 Abstain: 12	-	Yes: 105 No: 52 Abstain: 10	-
A/RES/66/40: Towards a nuclear-weapon-free world: accelerating the implementation of nuclear disarmament commitments.			
Yes: 165 No: 5 Abstain: 4	Yes: 158 No: 5 Abstain: 4	Yes: 160 No: 6 Abstain: 4	Yes: 156 No: 7 ¹³ Abstain: 41 ⁴
A/RES/65/71: Decreasing the operational readiness of nuclear weapons systems			

¹⁵³ For more detailed information on these resolutions, please see Reaching Critical Will's website.

2009	2010	2011	2012
-	Yes: 144 No: 3 Abstain: 22	-	Yes: 145 ¹⁵ No: 4 ¹⁶ Abstain: 19 ¹⁷
A/RES/66/48: Reducing nuclear danger			
Yes: 113 No: 50 Abstain: 15	Yes: 103 No: 48 Abstain: 14	Yes: 110 No: 46 Abstain: 12	Yes: 108 ¹⁸ No: 48 Abstain: 13 ¹⁹
A/RES/67/56: Taking forward multilateral disarmament negotiations			
-	-	-	Yes: 147 No: 4 ²⁰ Abstain: 31 ²¹

- 1 - Azerbaijan and Kazakhstan changed their votes to yes, comparing with 2009 voting results.
2 - Denmark changed its vote to no.
3 - Georgia, Iceland, Montenegro, Former Yugoslav Republic of Macedonia and Norway changed to abstain.
4 - Azerbaijan, Kazakhstan and Ukraine changed their votes into yes.
5 - Georgia changed to abstain.
6 - Azerbaijan and Kazakhstan changed to voting yes.
7 - Republic of Moldova and the Former Yugoslav Republic of Macedonia changed into voting no.
8 - Montenegro, New Zealand and South Africa changed to abstain in 2012.
9 - Ukraine changed its vote into yes in 2012.
10 - South Sudan abstained in 2012.
11 - Bhutan and France change their votes to yes in 2012.
12 - Brazil, Ecuador, India, Mauritius and Nicaragua changed to abstained in 2012.
13 - Russia and UK changed their votes to no in 2012.
14 - China changed to abstain in 2012.
15 - Compared to 2010, Albania, Kyrgyzstan, Serbia and the Former Yugoslav Republic of Macedonia changed their votes to yes in 2012.
16 - Russia voted no in 2012.
17 - North Korea and Ukraine abstained in 2012.
18 - Azerbaijan and Kazakhstan changed their votes to yes in 2012.
19 - Georgia abstained in 2012.
20 - France, Russia, United Kingdom, United States.
21 - China abstained.

No significant trend can be discovered here. Some resolutions have seen a decreased number of no votes, mostly from non-nuclear weapon states. The nuclear weapon possessing states continue to vote in a similar way and to provide similar explanations of votes as before the adoption of the 2010 NPT Action Plan.

Nuclear disarmament discussions in the Conference on Disarmament (CD)

Since the adoption of the 2010 NPT Action Plan, the CD has not been able to adopt a programme of work. However, there have been some attempts by states to move the issue forward and start negotiations on the substantive issues on the CD's agenda.

A draft resolution "Taking forward multilateral disarmament negotiations" was put forward during the 2011 session of the UNGA's First Committee by Austria, Mexico, and Norway but was not submitted to a vote once it became clear that it would not gain enough support from key states. It received criticism from the nuclear weapon possessors and some key NNWS, which argued that it would undermine the CD.¹⁵⁴

154 Ibid.

While this was apparently a bridge too far for many states, a new resolution, “Revitalizing the work of the Conference on Disarmament and taking forward multilateral disarmament negotiations,”¹⁵⁵ put forward by the Netherlands, South Africa, and Switzerland, was adopted by consensus in 2011. This resolution offers space for continuing the dialogue on breaking the impasse at the CD, though it unfortunately does not contain any mechanisms itself for breaking that impasse.¹⁵⁶

In addition, in July 2011 at the UNGA plenary meeting on revitalizing multilateral disarmament negotiations, the Secretary-General’s Advisory Board on Disarmament Matters released a report, which contained three recommendations: that the United Nations Secretary-General (UNSG) continue to encourage the CD to achieve a breakthrough; that if a panel of eminent persons be established to consider the stalemate at the CD, the UNSG should ask the panel to make recommendations on ways to revitalize the United Nations disarmament machinery as a whole; and that the UNSG should continue to raise public awareness and encourage civil society and NGOs to offer input on ways to overcome the stalemate at the CD.¹⁵⁷ No such panel of eminent persons has been established yet.

During the First Committee of the UNGA in 2012 two resolutions were adopted that are hoped to have an impact on the work of the CD. First, “Taking forward multilateral disarmament negotiations”, A/C.1/67/L.46, was tabled by Austria, Mexico, and Norway and adopted with a vote of 134-4-34. All NWS voted against the resolution except China, which abstained. The resolution establishes an open-ended working group (OEWG) to “develop proposals to take forward multilateral nuclear disarmament negotiations for the achievement and maintenance of a world without nuclear weapons.” The opposing NWS expressed concern that such new processes as the OEWG might jeopardize the 2010 consensus on the NPT Action Plan.¹⁵⁸

The second resolution “High-level meeting of the General Assembly on nuclear disarmament”, A/C.1/67/L.19, adopted 165-0-5, was submitted by the Non-Aligned Movement. France, Israel, the UK, the US and Ukraine abstained. The resolution convenes a one-day high-level meeting on nuclear disarmament on 26 September 2013. The abstaining NWS, France, the UK and the US, questioned the value of holding such a high-level meeting and wondered how it would further the goals of implementing the here discussed 2010 NPT Action Plan.¹⁵⁹

155 A/C.1/66/L.39, UNGA First Committee resolution.

156 Ibid.

157 A/66/125, UNGA First Committee resolution.

158 Fihn, B. “Disarmament Machinery”, First Committee Monitor, Reaching Critical Will, 12 November 2012.

159 Ibid.

TRANSPARENCY, IRREVERSIBILITY AND VERIFICATION

- **Action 2:** All States parties commit to apply the principles of irreversibility, verifiability and transparency in relation to the implementation of their treaty obligations.
- **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:
 - (g) Further enhance transparency and increase mutual confidence.
- **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.
- **Action 20:** States parties should submit regular reports, within the framework of 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.
- **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.

Irreversibility, verifiability, and transparency of recent reductions

Treaty obligations for non-proliferation are monitored under the International Atomic Energy Agency (IAEA) safeguards system, but no such international body exists to monitor disarmament efforts under the NPT. Since the adoption of the NPT Action Plan, only three of the five NWS have announced reductions of nuclear arsenals.

China

China has not reported any reductions since the 2010 NPT Action Plan was adopted.

France

France has not carried out any reductions of nuclear warheads since the adoption of the 2010 NPT Action Plan. But it has been reported that the French stockpile is expected to decrease to around 290 warheads within the next few years.¹⁶⁰ No plan for verification of the irreversibility of this reduction has been reported.

Russian Federation and the United States

The New Strategic Arms Reduction Treaty (START) data exchange, which, under the terms of the Treaty, had to take place within 45 days of its entry into force, indicates that Russia had 1,537 deployed strategic warheads, 521 deployed strategic delivery vehicles, and 865 launchers. The United States had 1,800 deployed strategic warheads, 882 deployed strategic delivery vehicles, and 1,124 launchers. Both countries have seven years to meet the Treaty's targets. The data are to be updated every six months.¹⁶¹ On-site inspections will offer access to additional data on missiles and bombers. When an intercontinental ballistic missile, submarine-launched ballistic missile, or air base is inspected (which may take place up to ten times each year, as noted above), in what the Treaty labels 'Type One' inspections, the inspectors will be told and shown where each missile is and told how many warheads are deployed on it.

The verification system for New START has been called "the most intrusive verification system ever implemented for counting nuclear warheads"¹⁶² and for the first time includes verification of actual warhead numbers, rather than counting delivery vehicles as carrying a pre-determined number of warheads based on maximum loading.

But, it has also been noted that while the Treaty reduces the legal limit for deployed warheads, it does not impose a reduction in the number of warheads as no limits are set for non-deployed warheads (the Treaty does not require the destruction of non-deployed warheads). Additionally a new counting regulation attributes one weapon to each bomber, rather than the actual number of weapons assigned to them. It has been argued by nuclear experts that such "fake counting rules free up a large pool of warhead spaces under the treaty limit that enable each country to deploy many more warheads than would otherwise be the case."¹⁶³

New START lacks any requirements for warheads to actually be dismantled. Since the Treaty establishes no procedures for the dismantlement of warheads, as it and other treaties before it have done for delivery vehicles, and while it does mark a significant departure from the system of counting "attributed" warheads, it is only through the actual destruction of warheads that disarmament can realistically be irreversible.¹⁶⁴

United Kingdom

The UK government reported in October 2010 that the number of warheads on-board each nuclear submarine will be reduced from 48 to 40, which will reduce the number of operational and available warheads to "no more than 120".¹⁶⁵ The UK also announced that over the next few years, it would reduce the number of operational missiles on the Vanguard class submarines to no more than eight, and thereby reduce the British overall nuclear weapon stockpile to "not more than 180" by the mid 2020s.¹⁶⁶ On 9 June 2010 the Foreign Office Minister Alister Burt stated, "We have no plans

160 Kristensen, H, "French Nuclear Forces", Federation of American Scientists Strategic Security blog, 5 September 2011.

161 Collina, T, "Russia Below Some New START Limits", Arms Control Association, July/August 2011.

162 "Verification of New START", Union of Concerned Scientists, July 2010.

163 Kristensen, H. "New START has new counting", Federation of American Scientists Strategic Security blog, 29 March 2010.

164 Cliff, D, Elbanting, H, & Persbo, A, "Irreversibility in Nuclear Disarmament", September 2011, p. 61.

165 Duncan, J, "Statement at the 65th session of the UNGA First Committee", October 2010.

166 Ibid.

to establish procedures to allow the international community to verify the UK's nuclear warhead stockpile."¹⁶⁷ Furthermore, the UK is currently contemplating modernization of its nuclear weapon system and has already invested significant resources in such programmes.¹⁶⁸

The United Kingdom together with Norway has conducted research on the verification of warhead dismantlement. This UK-Norway initiative started in 2007 and is monitored by the Verification, Research, Training and Information Centre (VERTIC). The project's main goal is to investigate the verified dismantlement of nuclear warheads and to formulate recommendations for future work. The UK-Norway process has also inspired new projects currently in development by several countries.¹⁶⁹ In December 2010, the United Kingdom hosted a workshop in London to share experiences with non-nuclear weapons states¹⁷⁰ and in April 2012 the UK hosted a similar meeting to share the outcomes of the research project with the other P5 nuclear weapon states.¹⁷¹

Further transparency and confidence-building measures

Information available on nuclear weapons differs greatly between NWS. A special concern regarding lack of transparency involves warheads that are not covered by any control regime. For example, information on the stockpile of TNW is not available.

China

China published its 2010 white paper in an effort to deepen trust in and transparency of its national defence policy. It has been argued that China's defensive policy might be changing, and therefore the publication of the white paper aimed to create a security environment featuring mutual trust and cooperation."¹⁷² Unfortunately, the white paper does not give any official data on China's nuclear stockpile. China has never released any official data on its nuclear arsenal¹⁷³ and any discussion of the Chinese inventory is based on estimates made by Western governments and non-governmental organizations.

France

France has released the total numbers of all their weapons, not just deployed ones, through public speeches and legal documents attached to procurement laws and defence budgets.¹⁷⁴

Russian Federation

Public information on Russia's nuclear weapons is limited. Russia's strategic nuclear weapons are thought to be on Russian soil, but there is no available information on the numbers or location.¹⁷⁵ Also, the availability of information on non-strategic nuclear weapons is limited. However, the US and Russia have, through the entry into force of New START, exchanged information on strategic nuclear-warhead delivery systems.¹⁷⁶

167 Burt. A, "Nuclear Weapons", speech at the United Kingdom Parliament, June 2010.

168 See Chapter on Disarmament and Arms Reduction Efforts for details.

169 Arms Control and Disarmament: completed projects, VERTIC online database, www.vertic.org.

170 Statement by United Kingdom in UNGA First Committee, 7 October 2011.

171 UK host meeting on nuclear verification, <http://www.fco.gov.uk/en/news/latest-news/?view=News&id=750457882>.

172 Guanqun. W, "China issues white paper on national defense to enhance transparency", March 2011 .

173 Kearns. I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", BASIC paper, November 2011, p. 9.

174 Schaper. A, "Transparency and security in Nuclear Weapons", The Weapons of Mass Destruction Commission Report, 2006, p. 6.

175 Ibid.

176 Ibid, p. 3.

United Kingdom

In May 2010, the United Kingdom announced for the first time the size of its nuclear stockpile, and provided some information of the operational status of warheads.¹⁷⁷ Describing what he called a “more open” policy, Foreign Secretary of State, William Hague said Britain’s total number of nuclear warheads would not exceed 225, including the maximum 160 already declared as “operationally available”.

United States

The United States has released the most detailed information on its nuclear weapons, although it does not reveal deployment locations or exact numbers of total inventory of warheads.¹⁷⁸ In May 2010, the United States revealed the total size of its deployed nuclear stockpile. In November 2012, the United States released the full aggregate numbers of strategic offensive arms under New START. The data comes from the biannual exchange of data required under New START.¹⁷⁹

P5 confidence building efforts

None of the NWS have published a full account of specific nuclear weapons modernization programmes and their costs. The official statement from the P5 Paris meeting in 2011 indicated that the NWS “continued their previous discussions on the issues of transparency and mutual confidence, including nuclear doctrine and capabilities, and of verification, recognizing such measures are important for establishing a firm foundation for further disarmament efforts.”¹⁸⁰ In their joint statement from June 2012 they once again informed about their continued discussion on above mentioned topics and added they “will continue their discussions in multiple ways within the P5, with a view to reporting to the 2014 PrepCom, consistent with their commitments under Actions 5, 20, and 21 of the 2010 RevCon final document.”¹⁸¹

Regular reports under the NPT

Step 12 of the 13 Practical Steps for the implementation of Article VI adopted by the 2000 NPT Review Conference calls for regular reports by all states parties on the implementation of Article VI and paragraph 4 (c) of the 1995 Decision.

In the lead up to the 2010 NPT Review Conference, only 23¹⁸² out of 189 states parties submitted such national reports. China and Russia were the only two NWS to do so. So far only five countries¹⁸³ have submitted reports to the current review cycle.

Reporting for the nuclear weapons states

While several of the NWS disclose information about their nuclear weapons reductions, each of them has different counting rules on their arsenals, which complicates comparisons.¹⁸⁴

The issue of reporting was mentioned in the joint P5 statement from their Paris meeting in June 2011. The statement said that the P5 “met with the determination to work together in pursuit of their shared goal of nuclear disarmament under article VI of the NPT, including engagement on the steps outlines in action 5, as well as reporting and other efforts called for in the 2010 Review Conference

177 Norton-Taylor, R. “Britain’s nuclear arsenal is 225 warheads, reveals William Hague”, *The Guardian*, 26 May 2010, <http://www.guardian.co.uk/world/2010/may/26/uk-nuclear-weapons-stockpile-warheads>.

178 *Ibid*, p, 5.

179 “New START Treaty Aggregate Numbers of Strategic Offensive Arms”, U.S Department of States official webpage, 30 November 2012.

180 Final Joint Press Statement, First P5 follow-up meeting to the NPT Review Conference, Paris, 2011.

181 Final Joint Media Note, Third P5 conference: Implementing the NPT, Washington, 29 June 2012, <http://www.state.gov/r/pa/prs/ps/2012/06/194292.htm>.

182 Algeria, Australia, Austria, Brazil, Canada, Chile, China, Cuba, Finland, Iran, Ireland, Japan, Kazakhstan, Mexico, Morocco, New Zealand, Norway, Poland, Republic of Korea, Russian Federation, Sweden, Ukraine, and Uruguay

183 Australia, Canada, Islamic Republic of Iran, New Zealand, Republic of Korea.

184 Kearns, I, “Beyond the United Kingdom: Trends in the Other Nuclear Armed States”, BASIC paper, November 2011, p. 9.

Action Plan.”¹⁸⁵ During their Washington meeting in June 2012 they “continued their previous discussions on the issues of transparency, mutual confidence, and verification, and considered proposals for a standard reporting form.”¹⁸⁶ However no concrete results can be reported.

On 22 September 2010, the Non-Proliferation and Disarmament Initiative (NPDI)¹⁸⁷ was formed.¹⁸⁸ In 2011, NPDI developed a draft standard nuclear disarmament reporting form, as promoted by action 21 in the Action Plan. The reporting form has been shared with the five NPT NWS during the P5 meeting in Paris on 30 June–1 July, but has not received any official response from the five NWS.

The United Nations Office for Disarmament Affairs has set up a website to function as a repository of information provided by NWS in accordance with the 2010 NPT Action Plan. Once action is taken by the NWS, the information will be available there.¹⁸⁹

185 Final Joint Press Statement, Second P5 follow-up meeting to the NPT Review Conference, Paris, 2011.

186 Final Joint Press Statement, Third P5 conference: Implementing the NPT, Washington, 29 June 2012, <http://www.state.gov/r/pa/prs/ps/2012/06/194292.htm>.

187 Australia, Canada, Chile, Germany, Japan, Mexico, the Netherlands, Poland, Turkey and the United Arab Emirates.

188 Berlin statement by Foreign Ministers on nuclear disarmament and non-proliferation, Conference on Disarmament, CD/1908, 17 May 2011.

189 United Nations Office for Disarmament Affairs, <http://www.un.org/en/disarmament/>.

NUCLEAR WEAPON FREE ZONES AND NEGATIVE SECURITY ASSURANCES

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Action 7: All States agree that the Conference on Disarmament should, within the context of an agreed, comprehensive and balanced programme 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.
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Action 8: All nuclear weapon States commit to fully respect their existing commitment with regard to security assurances. Those nuclear weapon States that have not yet done so are encouraged to extend security assurances to non-nuclear-weapons States parties to the Treaty.
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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 reservation.

General negative security assurances

Since May 2010, a number of efforts have been made by some of the NWS on the topic of NSAs. Although the international community is no closer to a legally-binding regime than before the NPT RevCon, some NWS have modified their previous assurances.

China

China is the only NWS that has a no first use policy. This policy has two parts. Firstly, it means China has declared that it will not use nuclear weapons against any NWS in a first strike and secondly, that it will never use or threaten to use nuclear weapons against any NNWS or members of a NWFZ.

China holds that while moving towards the complete prohibition of nuclear weapons, all NWS should abandon any nuclear "deterrence" policy based on first use of nuclear weapons as well as make an unequivocal commitment that under no circumstances will they use or threaten to use nuclear weapons against NNWS or NWFZs and negotiate an international legal instrument in this regard. In the meantime, China maintains, NWS should negotiate and conclude a treaty on no-first-use of nuclear weapons against each other.¹⁹⁰

¹⁹⁰ "China's National Defense in 2010", English.news.cn, 21 March 2011.

France

France reiterated its NSA policy in line with UN Security Council Resolution 984 in a statement delivered during the 2010 NPT Review Conference: "France granted positive and negative security assurances to all NNWS Parties to the NPT, in compliance with their non-proliferation obligations. The Security Council recalled these security assurances in its Resolution 1887, stressing that they strengthen the non-proliferation regime."¹⁹¹

France has consistently opposed the idea of a no first use pledge and attaches less weight to NSAs than other NWS. It conditions the NSAs it has previously given to NNWS that are party to the NPT by arguing that nuclear retaliation is consistent with the legal right to self-defence as recognised in Article 51 of the UN Charter and that the right to self-defence would, in the face of aggression by others, take precedence over any no first use commitments given in peacetime. France also argues that any state not meeting its own non-proliferation commitments, including in relation to chemical and biological weapons, could not expect any NSA to apply to them.¹⁹²

Russia

Russia has shown readiness to elaborate global NSAs, provided that they will take into consideration Russian military doctrine and its national security concepts.¹⁹³ This statement was reiterated with modest changes during the 2011 CD session, when Russia stated that it unswervingly supports the desire of NNWS to obtain NSAs and declared it is ready to start developing global assurances, taking into account the provisions in the Russian security doctrine.¹⁹⁴

United Kingdom

In October 2010, the UK government released its Strategic Defence and Security Review and stated that it is "now able to give an assurance that the UK will not use or threaten to use nuclear weapons against NNWS parties to the NPT." It explained, "In giving this assurance, we emphasise the need for universal adherence to and compliance with the NPT, and note that this assurance would not apply to any state in material breach of those non-proliferation obligations. We also note that 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."¹⁹⁵ Previous language in the 1998 Strategic Defence Review stated that the UK will not use nuclear weapons against "a non-nuclear weapon state not in material breach of its nuclear non-proliferation obligations, unless it attacks us, our Allies or a state to which we have a security commitment, in association or alliance with a nuclear weapon state."¹⁹⁶

United States

The 2010 NPR states: "The United States will not use or threaten to use nuclear weapons against NNWS that are party to the NPT and in compliance with their nuclear non-proliferation obligations."¹⁹⁷ The NPR gives no definition of what compliance in this regards means, leaving this statement open to interpretation.

191 Statement delivered by France at the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, 7 May 2010.

192 Kearns. I, "Beyond the United Kingdom: Trends in the Other Nuclear Armed States", British American Security Information Council (BASIS), November 2011, p. 21.

193 Statement by the Russian Federation to the Conference on Disarmament, 3 August 2006.

194 Fihn. B, "Thematic discussion on negative security assurances", CD Report, Reaching Critical Will, February 2011.

195 "Securing Britain in an Age of Uncertainty. The Strategic Defence and Security Review", Her Majesty Government, October 2010, pp. 37-38.

196 "Strategic Defense Review", United Kingdom 1998, <http://merln.ndu.edu/whitepapers/UnitedKingdom1998.pdf>.

197 "Nuclear Posture Review report", Department of Defense, United States of America, April 2010, p. 15.

The NPR also states that conventional weapons would be used to retaliate against a biological or chemical weapons attack. This is a change from the last NPR, which stated that nuclear weapons could be used, even if the attack came from a NNWS.¹⁹⁸ The 2010 NPR does however also state that if the evaluation and proliferation in biological weapons threat would change, the US reserves the right to adjust its NSA policy accordingly.¹⁹⁹ Furthermore, the NPR states that the nuclear weapons may still play a role in deterring conventional, chemical, and biological weapons from the states listed as not being under the US security assurances. The NPR also indicates that the US will seek to ensure that nuclear weapons would only be used in “extreme circumstances”.²⁰⁰

NSAs in the UNGA

During the 2012 session of the UNGA First Committee, resolution (A/RES/67/29), “Conclusion of effective international arrangements to assure non-nuclear-weapon States against the use or threat of use of nuclear weapons,” was adopted with a vote of 126-0-57.²⁰¹ France, Russia, United Kingdom, and the United States all abstained while China voted yes. This voting pattern is the same as before the adoption of the 2010 NPT Action Plan.

High-level meetings

Although no significant steps towards legally-binding NSAs have been taken, action 7 also calls on the UN Secretary-General to convene a high-level meeting. In September 2010 he convened such a meeting on “revitalizing the work of the Conference on Disarmament and taking forward multilateral disarmament negotiations”.²⁰²

Furthermore in July 2011 the UNGA convened a follow-up to this meeting, at the request of 49 member states. The follow-up served as a general debate on revitalizing the work of the CD and to discuss ways to break its longstanding deadlock. The participants discussed issues such as whether or not negotiations should be pursued outside of the CD and if the CD itself should be reformed.

With the resolutions passed in the UNGA First Committee the issue clearly remains on the agenda. However no progress regarding the revitalisation of the CD can be reported so far.

Nuclear Weapon Free Zones

The Pelindaba Treaty (African Nuclear-Weapon-Free-Zone)

In accordance with Article 14 of the Pelindaba Treaty, the African region held its First Conference of States Parties to the Treaty on 4 November 2010 at the African Union Headquarters in Addis Abeba, Ethiopia.

Seven countries, Cameroon²⁰³, Chad, Comoros, Ghana, Guinea-Bissau, Namibia and Zambia, have ratified the Treaty since the adoption of the NPT Action Plan.²⁰⁴ As of July 27 2012, 17²⁰⁵ signatories have yet to ratify the Pelindaba Treaty.

198 Nurja. A, “Obama Submits NWFZ Protocols to Senate”, Arms Control Today, June 2011.

199 “Nuclear Posture Review report”, Department of Defense United States of America, April 2010, p. viii.

200 Ibid, pp. viii – ix.

201 Albania, Andorra, Argentina, Armenia, Australia, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Marshall Island, Micronesia, Monaco, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Republic of Korea, Republic of Moldova, Romania, Russian Federation, San Marino, Serbia, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, FYR Macedonia, Turkey, United Kingdom, United States abstained to this resolution tabled by Pakistan.

202 Acheson. R, “High-level meeting on revitalizing the CD serves as catalyst for action”, CD Report, Reaching Critical Will, September 2010.

203 Cameroon ratified on 11 June 2009, but it was deposit on 28 September 2010.

204 African Union Official Website: http://www.au.int/en/sites/default/files/pelindaba%20Treaty_0.pdf

205 Angola, Central African Republic, Cape Verde, Congo, Djibouti, Democratic Republic of Congo, Egypt, Eritrea,, Liberia, Niger, Sahrawi Arab Democratic Republic, Seychelles, Sierra Leone, Somalia, Sao Tome & Principe, Sudan, Uganda.

Both Protocol I (NSA) and Protocol II (ban on nuclear testing in the NWFZ) have been signed by all NWS, and ratified by all except the United States. The protocols were handed in to the US Senate in May 2011 for ratification.²⁰⁶ Protocol III is open for signature by France and Spain, as non-African countries that are “de jure” or “de facto” responsible for territories within the zone. France has signed and ratified Protocol III but Spain has yet not signed it for reasons independent of its nuclear obligations.

All NWS, except for China, have attached reservations to Protocol II, reserving the right to use their nuclear arsenals in response to “changes of the international environment”.

The Treaty of Tlatelolco (Nuclear-Weapon-Free-Zone in Latin America and the Caribbean)

The Treaty of Tlatelolco²⁰⁷ has two additional protocols. Protocol I involves non-Latin American countries that have territories in the NWFZ. France, the United Kingdom, and the United States have signed and ratified Protocol I. Protocol II deals with the provisions of NSAs and is open for signature to the NWS, which all are signatories and have ratified the protocol, albeit with reservations.²⁰⁸

The Treaty of Rarotonga (South Pacific Nuclear-Weapons-Free-Zones)

After the Treaty’s entry into force in 1986, the Republic of the Marshall Islands, the Federal State of Micronesia and Palau became eligible states for signing this Treaty, but none have yet done so. The Treaty’s Protocol I (which calls on US, UK and France to apply the key provisions of the Treaty in respect to their territories situated within the zone), Protocol II (on negative security assurances), and Protocol III (whereby NWS undertake not to test nuclear weapons in the zone) have been ratified by all NWS except for the United States.²⁰⁹ President Obama handed in the request for ratification of the three Protocols together with the Pelindaba Treaty protocols to the US senate in May 2011.²¹⁰

Out of the four NWS that have ratified the protocols, France and the United Kingdom have made reservations on Protocol II (NSAs). These reservations are the same they have made for the Pelindaba Treaty.

The Treaty of Bangkok (Southeast Asia Nuclear-Weapon-Free-Zone)

The Protocol to the Treaty has not been signed by any of the NWS.²¹¹

In August 2011, the NWS met with officials from the Association of Southeast Asian Nations (ASEAN) to discuss their ratification of the Protocol to the Treaty. One follow-up meeting was held in October 2011. In November 2011, Thailand’s foreign minister announced that the ASEAN countries together with the NWS had reached an agreement on how to proceed on the regions NWFZ. On 19 November the White House stated, “All sides have agreed to take the necessary steps to enable the signing of the protocol and its entry into force at the earliest opportunity.” This agreement involves further negotiations.²¹²

In July 2012 France, Russia, the United Kingdom and the United States announced they would not be able to sign the treaty during the ASEAN Foreign Minister’s meeting. They had introduced reservations to the SEANWFZ commission too late for the commission to review them before the conference.²¹³ As of December 2012 still no NWS has signed the Protocol to the Treaty.

206 “Nuclear weapons free zone”, Disarmament Forum, UNIDIR, June 2011, p. 1.

207 Official Website of the Treaty of Tlatelolco: www.opanal.org/opanal/about/about-i.htm.

208 Latin America Nuclear Weapons Free Zone Treaty (Treaty of Tlatelolco), Arms Control Associations, last updated 2011.

209 Crail. P & Kimball. D, Nuclear-Weapon-Free Zones (NWFZ) at a glance, Arms Control Associations website, last updated 2011.

210 “Nuclear weapons free zone”, Disarmament Forum, UNIDIR, June 2011, p. 20.

211 Crail. P & Kimball. D, Nuclear-Weapon-Free Zones (NWFZ) at a glance, Arms Control Associations website, last updated 2011.

212 Crail. P, “Progress Made on SE Asian Nuclear Pact”, Arms Control Today, December 2011.

213 “4 nuke states postpone signing SEANWFZ protocol next week”, Xinhua, 8 July 2012, http://news.xinhuanet.com/english/world/2012-07/08/c_131702340.htm.

The Treaty of Semipalatinsk (Central Asia Nuclear-Weapon-Free-Zone)

The Protocol to the Treaty has not yet been signed by any of the NWS.

Developments regarding a potential Weapon of Mass Destruction Free Zone in the Middle East (MEW MDFZ)

Since the MEW MDFZ also incorporates nuclear weapons, it is integrated in action 9 on NWFZs. The issue of a MEW MDFZ is central to the NPT. During the NPT RevCon in 2010, states parties agreed on “practical steps” to implement the 1995 Resolution on the Middle East. In this context, a Conference was planned for 2012, a “facilitator” was appointed (Jaakko Laajava, Under-Secretary of State in Finland’s Foreign Ministry), and a venue was chosen (Helsinki).

Efforts to facilitate

The IAEA General Conference adopted the traditional resolution on the implementation of safeguards in the Middle East in 2010, 2011 and 2012. This resolution calls upon all states in the region to accede to the NPT and invites the countries concerned, which have not yet done so to adhere to international non-proliferation regimes. Despite being the only country in the Middle East not party to the NPT, Israel is not mentioned by name in the resolution. In 2010, the INC (Israeli Nuclear Capabilities) resolution that singled out Israel’s nuclear programme was rejected at the IAEA General Conference. At the 2011 and 2012 IAEA General Conference, the Arab League decided not to table the INC resolution in order to improve the atmosphere in view of the 2012 MEW MDFZ Conference.

In November 2011, the IAEA organized a Forum on NWFZs at its headquarters in Vienna, Austria. The discussions focused on how the experiences of existing NWFZs might apply to the development of such a zone in the Middle East. Following the adoption by the Board of Governors (BoG) of a resolution on 18 November 2011, Iran decided not to participate in the Forum because of the adoption of the BoG resolution. The Arab states as well as Israel participated.

Just as in previous years, resolution A/C.1/66/L.1 on the establishment of the Middle East NWFZ was adopted without a vote in the 2011 GA First Committee. Israel stated in its explanation of vote that it “remains committed to a vision of the Middle East developing eventually into a zone free of Chemical, Biological, and Nuclear weapons as well as ballistic missiles.” The Israeli representative suggested that the process should begin with “modest” confidence-building measures and be followed by “the establishment of peaceful relations, reconciliation, mutual recognition and good neighborliness, and complemented by conventional and non-conventional arms control measures.” A “mutually verifiable” NWFZ could follow “in due course”. In 2012 the resolution was again adopted without a vote.

The Council of the European Union sponsored two seminars on “Middle East Security, WMD Non-Proliferation and Disarmament” organized in Brussels by the EU Non-Proliferation Consortium. The first seminar was held on 6–7 July 2011 and the second on 5–6 November 2012.²¹⁴

The facilitator reported on his first outreach activities during the 2012 NPT PrepCom.²¹⁵ At the time not all states of the region had announced their participation and no date had been set for the conference. In conclusion, the facilitator noted that further and intensified efforts were needed from the conveners, the states in the region, but also from the facilitator himself and indicated that while all states of the region support the goal of the WMD FZ, views differ on how and when it should be created.

214 COUNCIL DECISION 2010/799/CFSP and COUNCIL DECISION 2012/422/CFSP. For more information visit: <http://www.nonproliferation.eu/middleEastSeminar2012/>.

215 See Statement by Laajava to the NPT Preparatory Committee on 8 May 2012, http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom12/statements/8May_Laajava.pdf.

Postponement

On 23 November 2012 the United States as one of the co-sponsors of the conference unilaterally announced "the conference cannot be convened because of present conditions in the Middle East and the fact that states in the region have not reached agreement on acceptable conditions for a conference."²¹⁶ Shortly after, the other co-sponsors of the conference, the United Kingdom and the Russian Federation, also delivered similar statements. Both the UK and the Russian statement called for the conference to be held in 2013, with Russia specifying that a new date no later than April should be "fixed right now." In a statement, UN Secretary-General Ban Ki-moon said he was looking for the conference to take place "at the earliest opportunity in 2013."²¹⁷

The League of Arab States released a statement expressing "regret at the decision of the organisers" to postpone the conference. The Secretary General of the League, Nabil El-Araby, "stressed that all countries in the region except Israel have expressed their willingness to participate in the conference on schedule in accordance with what was agreed upon."²¹⁸

Israel had been hesitant to announce its participation; after all other states of the region had done so.²¹⁹ The Ministry of Foreign Affairs of Egypt rejected the "announced excuses not to hold a conference in 2012 as scheduled" and pointed to Israel's "non-constructive attitude" as the real reason for the delay.²²⁰

The following day the facilitator issued a press release regretting that the conference will not convene in 2012. Finland as the host government remained prepared and the facilitator together with the conveners and the states of the region will continue their efforts to "prepare the ground ... for the earliest possible convening of a successful conference, to be attended by all states of the region"²²¹. To that end he proposed multilateral consultations to be held in Geneva before the 2013 NPT Preparatory Committee.²²²

216 United States Department of State, 23 November 2012, Press Statement, <http://www.state.gov/r/pa/prs/ps/2012/11/200987.htm>.

217 Horner, D., "Meeting on Middle East WMD Postponed", Arms Control Today, December 2012, https://www.armscontrol.org/act/2012_12/Meeting-on-Middle-East-WMD-Postponed.

218 Gulhane, J., "WMD-free Middle East conference postponed," 26 November 2012, Daily News Egypt, <http://www.dailynewsegypt.com/2012/11/26/wmd-free-middle-east-conference-postponed/>.

219 Reuters and Guttermann, S., "Iran, Arabs Criticise Delay of Middle East Nuclear Talks", 26 November 2012, The New York Times, <http://www.nytimes.com/reuters/2012/11/26/world/middleeast/26reuters-nuclear-mideast-iran.html?scp=5&sq=&st=nyt>.

220 Gulhane, J., "WMD-free Middle East conference postponed," 26 November 2012, Daily News Egypt, <http://www.dailynewsegypt.com/2012/11/26/wmd-free-middle-east-conference-postponed/>.

221 Press release "Helsinki Middle East Conference", Ministry of Foreign Affairs of Finland, 24 November 2012.

222 Ibid.

COMPREHENSIVE NUCLEAR-TEST-BAN TREATY

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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 the 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.
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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.
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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 and 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.
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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.
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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 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 reach, and provide assurance of compliance with that Treaty.

New developments for the CTBT

The Treaty has been signed by 183 states, and ratified by 159. Since the adoption of the 2010 NPT Action Plan, eight²²³ additional states have become parties, including one Annex 2 country, Indonesia.

223 Brunei Darussalam, Central African Republic, Chad, Ghana, Guinea, Guatemala, Indonesia and Trinidad and Tobago.

13 countries that have not yet signed the CTBT²²⁴ and 24²²⁵ countries have signed but not yet ratified it. Formal entry into force of the CTBT requires that a specific group of 44 states named in Annex 2 of the Treaty ratify it. Eight more ratifications are needed before it can enter into force, including that of four NPT States: China, the Democratic People's Republic of Korea (DPRK), Egypt, India, Iran, Israel, Pakistan, and the United States.

Specific NWS obligations

United States

In May 2011, the US Under-Secretary of State for Arms Control and International Security said that "The Obama Administration is preparing to engage the Senate and the public on an education campaign that we expect will lead to ratification of the CTBT."²²⁶ On 6 December 2011, US President Barack Obama welcomed Indonesia's ratification and stated, "The United States remains fully committed to pursuing ratification of the Test Ban Treaty and will continue to engage members of the Senate on the importance of this Treaty to U.S. security. America must lead the global effort to prevent proliferation, and adoption and early entry into force of the CTBT is a vital part of that effort."²²⁷

Since May 2010, the US administration has begun informal briefings of Senators and staff on key technical and scientific issues related to the CTBT. However, the change in composition of the US Senate following the elections will make any prompt ratification of the CTBT even more unlikely.

China

The 2010 white paper on China's National Defence says, "China has strictly abided by its commitment to a moratorium on nuclear testing and has actively participated in the work of the Preparatory Commission of the Comprehensive Nuclear Test Ban Treaty Organization, and is steadily preparing for the national implementation of the Treaty. China is responsible for setting up 12 international monitoring stations and laboratories. At present, six primary seismological monitoring stations, three radionuclide stations, the Beijing Radionuclide Laboratory and the China National Data Centre have been set up, and one infrasound station is under construction."²²⁸ However, despite the support for the CTBT, the Chinese government has not yet initiated the ratification process.

Other outstanding NPT states

In addition to the NWS there are two more states parties to the NPT that are Annex II states that have not yet ratified the CTBT, Egypt and Iran.

Egypt

In 2009, the Egyptian delegation to the UNGA First Committee stated that it had not ratified the CTBT because doing so "would only result in widening the steep gap in commitments undertaken by States member to the NPT and States outside the Treaty which enjoy unlimited freedom in the nuclear area."²²⁹ In 2011, the Egyptian delegation made it clear that Egypt would not ratify the Treaty without a change in Israeli policy with regard to nuclear weapons. No change in the Egyptian position has been reported.

224 Bhutan, Cuba, the Democratic People's Republic of Korea, Dominica, India, Mauritius, Pakistan, Saudi Arabia, Somalia, South Sudan, Syrian Arab Republic, Tonga, Tuvalu.

225 Angola, China, Comoros, Congo, Egypt, Equatorial Guinea, Gambia, Guinea-Bissau, Iran, Iraq, Israel, Myanmar, Nepal, Niue, Papua New Guinea, Sao Tome and Principe, Solomon Islands, Sri Lanka, Swaziland, Thailand, Timor-Leste, United States, Yemen, Zimbabwe.

226 Tauscher, E, "The Case for the Comprehensive Nuclear Test Ban Treaty", US State Department, May 2011.

227 Kimball, D, "Indonesia ratifies CTBT", Arms Control Today, January/February 2012.

228 "China's National Defense in 2010", English.news.cn, 21 March 2011.

229 Calder, D, "Nuclear Testing", First Committee Monitor, Reaching Critical Will, 2009.

Iran

At the Fifth Conference on Facilitating the Entry into Force of the CTBT in 2007, Iran outlined a number of negative developments that “have jeopardized the prospects of entry into force of the Treaty”, including lack of progress towards nuclear disarmament, upgrading and modernization of existing nuclear weapons, rejection of the CTBT by major NWS, and acknowledgement of the possession of nuclear weapons by Israel.²³⁰ No change in the Iranian position has been reported.

CTBT Conferences

Since the 2010 NPT Action Plan was adopted, two Ministerial Meetings of the CTBT (September 2010 and September 2012) and one CTBT Article XIV Conference (September 2011) were held in New York on the margins of the UNGA. These meeting concluded with joint statements, which reaffirmed the commitment of the parties to the CTBT and called upon the states that had not yet ratified the Treaty to do so.²³¹

Verification

Pending the entry into force of the Treaty, the Preparatory Commission of the CTBTO is establishing a verification regime to detect nuclear explosions anywhere on the globe. The CTBTO detected a nuclear test explosion in the Democratic People’s Republic of Korea (DPRK) on the morning of 12 February 2013 and could inform its member states with data one hour before the DPRK’s announced its test.²³²

From 28 November to 9 December 2011, over 60 participants including International Monitor Station (IMS) operators, National Data Centre staff, diplomats, academics, and members of civil society attended the Advanced Science Course on the verification technologies of the CTBT. In total, participants from more than 100 different countries followed the event.²³³

The CTBTO Preparatory Commission lists several key challenges for the completion of the verification regime. For example, stations intended for India and Pakistan cannot be started until these two countries sign the CTBT.²³⁴

230 Statement by Iran to the Conference on the Entry into force of the CTBT, September 2007.

231 Joint Ministerial Statement on the CTBT, Reaching Critical Will website, 23 September 2010.

232 On the CTBTO’s detection in the DPRK, CTBT official webpage, Vienna, 12 February 2013.

233 Advanced Science Course on the CTBT Verification technologies, CTBTO Preparatory Commission, 2011.

234 The future role of the International Monitoring System, CTBTO Preparatory Commission, 2011.

FISSILE MATERIAL

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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.
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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.
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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.
- 

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.

Fissile materials in the Conference on Disarmament (CD)

The stalemate over the adoption of a programme of work in the CD has continued since the adoption of the action plan. As a consequence, only limited work has been undertaken both in the CD and in the margins of the Conference.

In 2011, along with CD plenary discussions on a fissile material cut-off treaty (FMCT), Australia and Japan co-hosted expert-level talks seeking to define key aspects of a treaty, including what would be considered fissile material and what constitutes production of such material. These events were arranged in order to “build confidence about FMCT and momentum towards FMCT negotiations in the CD on the basis of CD/1299 and the mandate contained therein.” Many delegations participated with experts from capitals, but not all CD delegations participated. A report from the discussions was submitted as an official document by the delegation of Japan to feed into the work of the CD.²³⁵

In 2012 CD plenary discussions on a FMCT continued.²³⁶ On 29–30 May and 28–29 August, Germany and the Netherlands held Scientific Expert meetings on “Technical Issues Related to a Fissile Material Cut-Off Treaty (FMCT),”²³⁷ which saw participation of around 45 government, and representatives of

235 Chair’s report of the Australia-Japan experts side event on FMCT definitions, Palais des Nations, Geneva 14-16 February 2011. <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2011/papers/1906.pdf>.

236 For detailed reporting on the 2012 sessions see: <http://www.reachingcriticalwill.org/disarmament-fora/cd/2012>.

237 Report by the Co-Chairs, “Germany-Netherlands FMCT Scientific Experts Meeting, Technical Issues Related to a Fissile Material Cut-Off Treaty (FMCT)”, 29-30 May 2012, <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2012/papers/FMCTreport.pdf>.

the United Nations Office for Disarmament Affairs (UNODA), the International Atomic Energy Agency (IAEA), the European Commission (Euratom), and the United Nations Institute for Disarmament Research (UNIDIR). The meetings looked at some clearly defined important technical issues that negotiators will be faced with when dealing with an FMCT in the future, and a report from the meetings was submitted to the CD.²³⁸

Fissile Materials in the UNGA First Committee

At the UNGA First Committee 2012, Canada presented a draft version of A/RES/67/40, "Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices". The resolution requests the UNSG to seek the views of Member States on a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices in 2013 and establishes a group of governmental experts (GGE) to meet for two weeks in 2014 and two weeks in 2015 "to make recommendations on possible elements of such a treaty."²³⁹ It will report back to the First Committee in October 2015. The resolution as a whole was adopted with a vote of 148-1-20.²⁴⁰ Pakistan was the only country voting no, arguing that the proposal to set up a GGE is "ill-advised" as it "adds no value to the substance of the envisaged treaty. It would on the other hand undermine the CD, the sole multilateral disarmament negotiating forum." The Chinese delegation abstained on the entire resolution since it did not "specify that the CD is the only place where negotiations of an FMCT can take place" and the Russian delegation argued it did not believe that a GGE would contribute to solving the issue that has complicated negotiations of a fissile material, and therefore abstained on the specific paragraph that set up the GGE while supporting the rest of the resolution. The other three nuclear weapon states supported the resolution and the GGE.²⁴¹

Declaration of excess fissile material for military use

Between 1996 and 2002, the Russian Federation, the United States, and the IAEA launched the Trilateral Initiative. This initiative was dedicated to examining the technical, legal, and financial issues associated with IAEA verification of fissile materials determined to be excess to military purposes. Included in the Trilateral Initiative were discussions on a possible legal instrument through the Voluntary Offer Agreements.²⁴² Since the end of 2002, when the Bush administration made it clear that the US would withdraw its participation,²⁴³ no significant steps have been taken to put the Trilateral Initiative, or any similar agreements, into action. There is no information available concerning this initiative.

In 2000 Russia and the US signed the Plutonium Management and Disposition Agreement (PMDA), which was finalized in 2010. Both states committed to eliminate 34 tonnes of excess weapon-grade plutonium and ensure that the plutonium is irreversibly removed from stockpiles for military use. The agreement also calls on both states to implement monitoring and inspection activities. The US monitors the key stages of the Russian process in the programmes facilities and Russia will conduct

238 Ibid.

239 Iran, Pakistan and Syria voted against this paragraph and Algeria, Bahrain, Belarus, China, Cuba, Democratic People's Republic of Korea, Djibouti, Ecuador, Egypt, Iraq, Israel, Kuwait, Lebanon, Libya, Nicaragua, Oman, Qatar, Russian Federation, Saudi Arabia, Sudan, Tunisia, Yemen, and Zimbabwe abstained. Voting Chart of the First Committee on A/C.1/67/L.41/Rev.1 OP 3, 5 November 2012.

240 Pakistan voted against the resolution and Algeria, Bahrain, China, Democratic People's Republic of Korea, Ecuador, Egypt, Iran, Iraq, Israel, Kuwait, Lebanon, Libya, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Yemen, and Zimbabwe abstained. Voting Chart of the First Committee on A/C.1/67/L.41/Rev.1, 5 November 2012.

241 Fihn, B., "Disarmament Machinery", First Committee Monitor, No. 5, 12 November 2012, <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/FCM12/FCM-2012-5.pdf>.

242 Shea, T., "Verification of weapon origin fissile material in the Russian Federation and United States", IAEA Bulletin, International Atomic Energy Agency, 1999.

243 Squassoni, S., "Grading Progress on 13 Steps Toward Disarmament", Carnegie Endowment for International Peace, 2009, p. 2.

visits to the US facilities to ensure that LEU is not diverted from civilian use. The agreement also opens up for IAEA verification once appropriate agreements with the IAEA are concluded,²⁴⁴ but as of yet the IAEA is not involved in any activities.²⁴⁵

The global stockpile of highly enriched uranium (HEU) in 2010 was 1475±125 metric tonnes and 485±10 tonnes separated plutonium.²⁴⁶ In January 2012, global stocks of HEU had decreased to around 1440±125 tonnes while stockpiles of separated plutonium now are estimated to be 495±10 tonnes, of which about 260 tonnes is the material in civilian custody.²⁴⁷

About 98% of the global stockpile of HEU is held by the NWS, the largest being in the United States and the Russian Federation.²⁴⁸ The stockpile of separated plutonium for weapons continues to increase because of production in India, and Pakistan. No clear information regarding plutonium for weapons in Israel exists. The United Kingdom, France, Russia, and Japan have accumulated the largest civilian plutonium stockpiles.

Russia and the US have since the end of the Cold War declared more than 700 tonnes of HEU and 100 tonnes of weapon-grades plutonium and both countries have set up programmes to eliminate their excess material.²⁴⁹

Russia

In 1996 Russia declared 500 tonnes excess HEU as a part of the US-Russian HEU-LEU deal. By the end of 2011 the programme had eliminated 442.5 tonnes and has plans to down-blend the remaining material by 2013.²⁵⁰ The remaining HEU in Russia, more than 600 tonnes, is enough to produce about 24,000 nuclear weapons.²⁵¹ Russia has also declared up to 50 tonnes weapon grade plutonium to be eliminated as excess material. Out of these 50 tonnes, 34 tonnes are included in the Plutonium Management and Disposition Agreement PMDA. Russia has not yet started building the designated fuel fabrication plan that will eliminate the plutonium; it is estimated that the programme will start in 2018.²⁵²

United Kingdom

The United Kingdom has an estimated stockpile of 20 tonnes HEU. In 1998, the UK declared 0.3 tonnes weapon-grade plutonium and informed that it would, together with 4.1 tonnes of non-weapon grades material, place this under IAEA safeguards. It has not been reported that any such safeguard agreement has been concluded and the UK has not proceeded to eliminate any of this material yet.²⁵³

United States

The US has declared more than 370 tonnes HEU as excess, both in 1996 and 2005. Currently, only about 100 tonnes of this HEU is available before 2050, leaving 210 tonnes designated for elimination.²⁵⁴ The US is expected to have down-blended 135 tonnes of HEU by 2013 and the remaining will be completed in 2050.²⁵⁵ The IAEA conducted a verification experiment that monitored down-blending of 50 tonnes of HEU at two US facilities. This experiment has not been repeated and the IAEA has

244 Sokova, E, "Plutonium Disposition", Nuclear Threat Initiative, September 2010.

245 Podvig, P, "Disposition of Excess Military Nuclear Material", UNIDIR paper, February 2012, p.3.

246 Global Fissile Material report 2010, International Panel of Fissile Materials, December 2010, p. 9.

247 Global Fissile Material Report 2011, International Panel of Fissile Materials, January 2012, pp. 2-3.

248 Ibid

249 Ibid, p.8.

250 Ibid, p.3.

251 Ibid.

252 Podvig, P, "Disposition of Excess Military Nuclear Material", UNIDIR paper, February 2012, p. 4.

253 Ibid

254 Ibid, p. 2.

255 Global Fissile Material Report 2011, International Panel of Fissile Materials, October 2012, pp. 2-3.

never had access to the US Department of Energy facilities that carry out most of the current down-blending activities. The remaining HEU in the US, 200 tonnes, could be used to produce over 8,000 nuclear weapons.²⁵⁶

In addition to the declared 52.5 tonnes of plutonium excess to its military necessities, the US has 34 tonnes included in the PMDA. The elimination is estimated to begin in 2025 and it will take 13 years to eliminate the 34 tonnes of plutonium.²⁵⁷

China and France

France and China have not declared any military nuclear material as excess.

Dismantling of production facilities for fissile material for military use

Pending the conclusion of an FMCT, most NWS have concluded a unilateral political declaration - a moratorium - on production of fissile material for weapons use. Most production facilities for weapons-grade fissile materials in the five NPT weapon states are therefore shut down and, in some cases, are in the process of being decommissioned. However, this is not verified and very little concrete information is available.

France has invited international experts to visit the dismantling of its former fissile material facilities at Pierrelatte and Marcoule, but this took place before the 2010 NPT Action Plan was adopted.

Russia ended the production of fissile materials for weapons in 1994. Ten out of Russia's thirteen plutonium production reactors were shut down by 1992. Of the three remaining facilities, the Zeleznogorsk was the last to be closed down on 15 April 2010.²⁵⁸

The United States has a number of shutdown reprocessing facilities, including the Nuclear Fuel Services' West Valley plant near Buffalo, New York; a plant near Morris, Illinois; a PUREX reprocessing plant in Hanford, Washington that was shut down in 1989; the Idaho Chemical Processing Plant; and the Savannah River.²⁵⁹

While China is the only NWS that has not officially declared a moratorium on HEU and plutonium production for weapons. However, it is believed that China ceased its production of HEU in 1987 and of plutonium by about 1990. All its previous military production facilities are reported to be closed, converted, or being decommissioned.²⁶⁰

256 Podvig. P, "Disposition of Excess Military Nuclear Material", UNIDIR paper, February 2012, p.2.

257 Ibid, p. 4.

258 Podvig. P, "Russia no longer produces weapon materials", IPFM blog, International Panel on Fissile Material, 2010.

259 ibid, p. 60.

260 Zhang. H, "China", *Global Fissile Material Report 2010: Balancing the Books*, International Panel on Fissile Material, 2011.

DISARMAMENT EDUCATION



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.

UNGA resolutions

In 2002, the UNGA unanimously adopted 34 recommendations in the UN Study on Disarmament and Non-Proliferation Education (A/57/124). The UN Secretary-General (UNSG) issues a report on the implementation of these recommendations biennially. Unfortunately, not many member states contribute to the report. Only nine member states²⁶¹ have contributed to the latest report²⁶² (A/67/138) released in July 2012.²⁶³ The United Nations Disarmament Affairs has a section on its website for disarmament education.²⁶⁴

In October 2010, First Committee adopted two biannual resolutions on disarmament education: "United Nations study on disarmament and non-proliferation education" (A/C.1/65/L.53) and "United Nations Information Programme" (A/C.1/65/L.52). While education is not a controversial topic compared to others during the First Committee, implementation of these resolutions is still limited.

The resolution on the United Nations study on non-proliferation and disarmament education (A/RES/67/47) was adopted without a vote during the UNGA in 2012.

Japan

During the 2010 session of the UNGA First Committee, the Japanese delegation highlighted the fact that the outcome document of the 2010 NPT Review Conference included for the first time a reference to the importance of disarmament and non-proliferation education as a useful and effective means to advance the goal of a world without nuclear weapons.²⁶⁵ Japan and the United Nations University (UNU) submitted a working paper to the 2010 NPT Review Conference that encouraged cooperation between governments and civil society on relevant education initiatives. Japan and UNU indicated they would "initiate dialogue" to this end. Japan announced to the First Committee 2010 that together with the UNU they intend to hold "the Global Forum on Disarmament and Non-proliferation Education" in March 2011 in Japan.²⁶⁶ Due to the earthquake on 11 March 2011 the forum had to be postponed and was held on 10–11 August 2012 in Nagasaki.²⁶⁷ During the final week of First Committee in 2011, Japan hosted a side event where Special Communicators for a World without Nuclear Weapons spoke for the first time in their new role. The Special Communicators status has been thus far given to *hibakusha* (atomic bomb survivors) in recognition of their work for nuclear disarmament.²⁶⁸

261 Austria, Colombia, Cuba, Italy, Japan, Lebanon, Mexico, New Zealand, Panama.

262 A/67/138.

263 In July 2010 when the previous report (A/65/160) was released, only five countries, Burkina Faso, Japan, Mexico, Spain and Ukraine, submitted information.

264 A list of the various activities and resources can be accessed under: <http://www.un.org/disarmament/education/index.shtml>.

265 Fihn, B, "Disarmament education", First Committee Monitor, Reaching Critical Will, October 2010.

266 The Forum was cancelled due to the earthquake that hit Japan on 11 March 2011.

267 United Nations University, Global Forum on Disarmament and Non-Proliferation Education, <http://isp.unu.edu/events/2012/global-forum-on-disarmament-and-non-proliferation-education.html>.

268 Sullivan, K, "Disarmament education", First Committee Monitor, Reaching Critical Will, November 2011.

Japan has raised the issue in different disarmament fora and encouraged states to implement the recommendations contained in the report of the UN Secretary-General regarding the United Nations study on disarmament and non-proliferation education.²⁶⁹ NPDI, of which Japan is a member, recognized the importance of disarmament and non-proliferation education as an integral part of their joint work.²⁷⁰ Australia and Japan, as well as NPDI submitted working papers to the 2012 NPT PrepCom on this issue.²⁷¹

269 Statement of Japan to the Conference on Disarmament on 28 February 2012 and to the NPT on 3 May 2012.

270 Statement of the NPDI to the NPT Preparatory Committee 2012, on 28 April 2012.

271 Australia and Japan: NPT/CONF.2015/PC.I/WP.11; NPDI: NPT/CONF.2015/PC.I/WP.14.

UNIVERSALIZATION



Action 23: The Conference calls upon all States parties to exert all efforts to promote universal adherence to the Treaty, and not to undertake any actions that can negatively affect prospects for the universality of the Treaty.

Exert all efforts²⁷²

Democratic People's Republic of Korea (DPRK)

The DPRK withdrew unilaterally from the NPT in January 2003, arguing that it from that point on was totally free from the binding force of IAEA safeguards. There is still disagreement regarding the legality of the DPRK's withdrawal.

The six-party talks between the DPRK, the United States, China, Russia, Japan, and the Republic of Korea were last held in December 2008.²⁷³ The DPRK pulled out of the talks shortly before conducting a second nuclear test in April 2009.²⁷⁴

The G8 Summit's declaration from June 2011 urged the DPRK to comply with its international obligations, including the complete, verifiable, and irreversible abandonment of all its nuclear programmes and ballistic missile programmes and promptly to address international humanitarian concerns, such as the issue of abduction.²⁷⁵ Several calls by a large number of states are made repeatedly at the UN Security Council, and at the UN General Assembly's First Committee each October.²⁷⁶

After taking power, the new leader Kim Jong-Un announced, on February 2012, a moratorium on nuclear and missile tests as well as on uranium enrichment. In exchange, the US pledged to provide food aid. This agreement became obsolete following the launch of a rocket in April 2012. In May 2012, the new constitution adopted by the DPRK proclaimed its status as "nuclear-armed nation."

On 12 December 2012, the DPRK carried out a new rocket launch, in response to which the UN Security Council adopted a new resolution (UNSCR 2087). In response, the DPRK states that it would carry out a nuclear test, which it did on 12 February 2013.²⁷⁷ The CTBTO detected the test and measured it to be 5.0 in magnitude, around twice as large as their 2009 test (4.52) and considerably larger than the 2006 test (4.1). The location was indicated to be the same as the two previous tests by the DPRK.²⁷⁸

272 No info available on Pakistan.

273 Arms Control Association official website, "Chronology of U.S. – North Korean Nuclear and Missile Diplomacy", 8-11 December 2008, <http://www.armscontrol.org/factsheets/dprkchron#2008>.

274 "North Korea 'keen' for six-party nuclear talks", BBC News Asia-Pacific, 1 August 2011.

275 G8 Declaration Renewed Commitment for Freedom and democracy, 26-27 May 2011.

276 See RCW's First Committee Monitor, <http://www.reachingcriticalwill.org/disarmament-fora/unga/2011/fcm>.

277 McCurry, J. and Branigan, T., "North Korea nuclear test: Pyongyang threatens 'stronger response'", The Guardian, 12 February 2013. More information in the chapter on Non-proliferation obligations.

278 On the CTBTO's detection in North Korea, CTBT official webpage, Vienna, 12 February 2013.

India

On 23 and 24 June 2011, the Nuclear Suppliers Group (NSG) adopted new guidelines that can be interpreted as affecting the exemption for nuclear trade with of India granted by the NSG in 2008.²⁷⁹ During this meeting, the NSG recommended that its members should “not authorize the transfer of enrichment and reprocessing facilities and equipment and technology” to any country that has not ratified the NPT, that does not have a comprehensive safeguard agreement with the International Atomic Energy Agency (IAEA), and that has not implemented the IAEA Additional Protocol, which permits closer scrutiny of atomic sites in signatory nations.²⁸⁰

However, shortly after the annual NSG meeting, US Secretary of State Clinton stated that “the new ENR transfer restrictions agreed to by the NSG members should be construed as detracting from the unique impact and importance of the US-India civil nuclear agreement or our commitment to full civil nuclear cooperation.”²⁸¹

At its plenary in Seattle, 18–22 June 2012, the NSG discussed once more the issue of the 2008 waiver in favour of India as well as—in general terms—the question of a possible NSG membership for India on the basis of a revised US “food for thought” paper and a French paper. Basically, it has been agreed that India has become a major player in the nuclear field. It has been reported that the NSG agrees that India has become a major player in the nuclear field, and a majority of NSG states have indicated that India now has to formalize its desire for membership. With regard to the next steps, the NSG Troika (Germany, Hungary and South Africa) will work with India on a “terms of reference” document

As its 29th Consultative Group (CG) held in Vienna on 6 November 2012, different NSG participating states informed on nuclear agreements with India.²⁸² A decision was taken to convene an open-ended discussion on Indian membership of the NSG, back-to-back with the 30th CG meeting in spring 2013. In this respect, the US informed that it would circulate a proposed agenda for discussion by mid-January 2013.

Israel

Efforts regarding Israel are to be considered as part of the 2012 MEWMDZF Conference. A MEWMDZF would have significant positive impact for the universalization of the NPT, and therefore this process is relevant to this action. For more information, see the chapter on Nuclear-Weapon-Free Zones and Negative Security Assurances.

279 The current member states of the NSG are Argentina, Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States.

280 “Nuclear Exporters Appear to Restrict Trade with India”, Global Security Newswire, 7 July 2011.

281 “US: New NSG norms no hurdle to nuclear deal”, Indian Express, 20 June 2011

282 Argentina reported that its nuclear cooperation bilateral agreement with India had received national legislative approval and transfers to India were due to commence soon. Australia reported on the commencement of its negotiations on civil nuclear cooperation with India for the export of uranium, only for civil purposes and subject to IAEA safeguards. Canada reported on its civil nuclear cooperation agreement with India, noting the recent conclusion of administrative arrangements for its nuclear cooperation agreement with India, which had been signed with India in June 2012. Also US-based Westinghouse Electric Co. had announced the signing of a preliminary deal with the state-run Nuclear Power Co. of India to build the first US nuclear reactors. US Secretary of State Clinton called it a “significant step toward the fulfilment” of the 2008 agreement.

UNGA First Committee resolutions on universalization of the NPT.

2009	2010	2011	2012
A/RES/65/88: The risk of nuclear proliferation in the Middle East			
Yes: 164 No: 5 Abstain: 6	Yes: 155 No: 5 Abstain: 8	Not tabled during the 2011 session	Yes: 158 ²² No: 5 ²³ Abstain: 5 ²⁴
A/RES/66/45: United action towards the total elimination of nuclear weapons			
Yes: 161 No: 2 Abstain: 8	Yes: 154 No: 1 Abstain: 13	Yes: 156 No: 1 Abstain: 15	Yes: 159 ²⁵ No: 1 Abstain: 12 ²⁶
A/RES/66/40: Towards a nuclear-weapon-free world: accelerating the implementation of nuclear disarmament commitments.			
Yes: 165 No: 5 Abstain: 4	Yes: 158 No: 5 Abstain: 4	Yes: 160 No: 6 Abstain: 4	Yes: 156 No: 7 ²⁷ Abstain: 4 ²⁸

22 - Cote d'Ivoire changed to yes in 2012.

23 - Canada voted no in 2012.

24 - Panama changed to abstain in 2012.

25 - Bhutan and France change changed to yes in 2012.

26 - Brazil, Ecuador, India, Mauritius and Nicaragua changed to abstain in 2012.

27 - Russia and UK changed their votes to no in 2012.

28 - China changed to abstain in 2011

Actions that can negatively affect universality

One of the main reasons cited for joining the NPT as a NNWS is the promise of the "inalienable right" to develop nuclear energy for "peaceful purposes". Nuclear export groups, such as the NSG and the Zangger Committee, have reinforced this. These export groups have adopted guidelines that prevent members from exporting nuclear technology to non-states parties to the NPT. Therefore, granting the same "rights" to non-NPT states can negatively affect prospects of the universality of the treaty.

Trade with non-NPT states parties

The US-India nuclear deal and the resulting NSG exemption waiver for nuclear trade with India were concluded well before the 2010 NPT Action Plan was adopted. However, as this was the first time such a deal was concluded with a non-NPT state party, it has set a standard for similar deals.

The agreement has been criticized for the fact that the 45 countries in the NSG have made a decision "on behalf" of the 189 states parties of the NPT. Objections have been raised that the NSG has never been given the authority to reinterpret the NPT, overturn NPT decisions, or violate existing international standards. After the NSG waiver was approved in 2008 and since the adoption of the NPT Action Plan, several deals and cooperation agreements have been concluded between India and other NPT states.²⁸³

283 Argentina, Australia, Canada, France, Kazakhstan, Mongolia, Namibia, Republic of Korea, Russia, Tanzania, United Kingdom. India may also be seeking uranium from various countries in Africa, including Angola, Gabon, Namibia, Niger, Nigeria, Tanzania and Uganda. These kinds of uranium deals could also be considered to be actions that significantly harm the prospects of the universality of the NPT. It would also be a violation of the African Nuclear Weapon Free Zone, the Pelindaba Treaty, as states parties to this treaty are not permitted to exchange in nuclear trade with non-NPT states parties.

Ahead of the NSG annual plenary meeting in the Netherlands in 2011 the United States circulated a “food for thought” paper²⁸⁴ as a follow-up to President Obama’s announcement on 1 November 2010 in New Delhi of his support for Indian membership in the NSG.²⁸⁵ In addition to this, in June 2010, China planned to provide Pakistan with two new nuclear reactors. Spokespeople emphasised that the reactors were for “peaceful uses” in line with China’s international obligations and under IAEA supervision.²⁸⁶ In March 2011 China announced it was to sell further nuclear reactors to Pakistan.²⁸⁷

Other member states of the NPT, including Argentina, Australia, Canada, France, Kazakhstan, South Korea, Russia, Tanzania and the United Kingdom, have also entered into a civilian nuclear cooperation with India.²⁸⁸

Permanent seat in the UN Security Council (UNSC)

The current five permanent seats on the UNSC coincide with the nuclear weapon states under the NPT. Promoting an additional seat for India, also a state with nuclear weapons, can be considered harmful to the prospects for universality of the NPT as well as for nuclear disarmament and non-proliferation.

Previously, the US has opposed India’s bid to become a permanent member on the grounds of nuclear proliferation concerns and because India has not signed the NPT. However, on 8 November 2010, US President Obama backed India for a permanent seat on the UNSC.²⁸⁹

India was elected a non-permanent member of the UNSC in 2011, with an overwhelming majority where only three UN member states did not vote for India. In addition to this, several other countries and organizations openly support India’s aim of a permanent seat.²⁹⁰ For example, Japan, Germany, and Brazil, which have also expressed a desire to become permanent members of the UNSC, all support a joint bid for permanent seats together with India and one or two African states.²⁹¹

Nuclear non-proliferation efforts

At the Seoul Nuclear Security Summit (NSS) in March 2012, representatives of India, Pakistan, and Israel were invited to participate and the final communiqué did not include any call upon these countries to join the NPT or any reference to the NPT at all.²⁹²

284 “Nuclear Suppliers Group Annual Plenary meeting”, Arms Control Today, 20 May 2011.

285 Kimball, D. G., “Indian Membership in the NSG? A Bad Idea Whose Time Has Not Come”, Arms Control Now, 23 June, 2011.

286 “China says Pakistan nuclear deal ‘peaceful’”, BBC News South Asia, 17 June, 2010.

287 Ho, S., “China to Sell Outdated Nuclear Reactors to Pakistan”, VOA News, 24 March, 2011.

288 For more details on these deals please see the first NPT Action Plan Monitoring report, http://www.reachingcriticalwill.org/images/documents/Publications/2010-Action-Plan/PUNE_Report_RCW.pdf
For South Korea: Press Trust of India, “India signs civil nuclear deal with South Korea”, NDTV, 25 July 2011, <http://www.ndtv.com/article/india/india-signs-civil-nuclear-deal-with-south-korea-121870>.

289 Lamont, J. & Luce, E. “Obama calls for top India role at UN”, Financial Times, 8 November 2010.

290 Such as the United Arab Emirates, Kazakhstan, Bangladesh, Chile, Australia, Czech Republic, Tanzania, the African Union, France, Russia, United Kingdom, Hungary, Poland, Croatia, Belarus, Romania, Norway, Finland, Slovakia, Portugal, Belgium, Armenia, Bulgaria, Greece, Luxembourg, Denmark, Iceland, Oman, Singapore, Laos, Sri Lanka, Malaysia, Mongolia, Uzbekistan, Kyrgyzstan, Vietnam, Tajikistan, Syria, Myanmar, Maldives, Qatar, Brunei, Palau, Micronesia, Tuvalu, Suriname, Bolivia, Guyana, Peru, Cuba, Belize, Bahamas, and Jamaica.

291 Security Council reform, Global Policy Forum; <http://www.globalpolicy.org/security-council/security-council-reform.html>.

292 Seoul Communiqué; 2012 Seoul Nuclear Security Summit, Nuclear Security Summit, 26-27 March 2012.

NON-PROLIFERATION OBLIGATIONS

- **Action 24:** The Conference re-endorses the call by previous review conferences for the application of IAEA comprehensive safeguards to all source or special fissionable material in all peaceful nuclear activities in the States parties in accordance with the provisions of article III of the Treaty.
- **Action 25:** The Conference, noting that 18 States parties to the Treaty have yet to bring into force comprehensive safeguards agreements, urges them to do so as soon as possible and without further delay.
- **Action 26:** The Conference underscores the importance in complying with the non-proliferation obligations, addressing all compliance matters in order to uphold the Treaty's integrity and the authority of the safeguards system.
- **Action 27:** The Conference underscores the importance of resolving all cases of non-compliance with safeguards obligations in full conformity with the IAEA statute and the respective legal obligations of Member States. In this regard, the Conference calls upon Member States to extend their cooperation to the Agency.
- **Action 29:** The Conference encourages IAEA to further facilitate and assist the States parties in the conclusion and entry into force of comprehensive safeguards agreements and additional protocols. The Conference calls on States parties to consider specific measures that would promote the universalization of the comprehensive safeguards agreements.
- **Action 32:** The Conference recommends that IAEA safeguards should be assessed and evaluated regularly. Decisions adopted by the IAEA policy bodies aimed at further strengthening the effectiveness and improving the efficiency of IAEA safeguards should be supported and implemented.
- **Action 33:** The Conference calls upon all States parties to ensure that IAEA continues to have all political, technical and financial support so that it is able to effectively meet its responsibility to apply safeguards as required by article III of the Treaty.
- **Action 34:** The Conference encourages States parties, within the framework of the IAEA statute, to further develop a robust, flexible, adaptive and cost effective international technology base for advanced safeguards through cooperation among Member States and with IAEA.
- **Action 46:** The Conference encourages IAEA to continue to assist the States parties in strengthening their national regulatory controls of nuclear material, including the establishment and maintenance of the State systems of accounting for and control of nuclear material, as well as systems on regional level. The Conference calls upon IAEA Member States to broaden their support for the relevant IAEA programmes.

Non-proliferation obligations

This group of actions involve some interpretation difficulties. For example, action 24 calls for the application of the IAEA Comprehensive Safeguards Agreement (CSA) in accordance with the provisions of article III of the NPT. Article III states that safeguards are to be “applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.”²⁹³ In this context, states are debating whether safeguards should be interpreted as they were set out in 1968 or in a more comprehensive manner to incorporate the Additional Protocol (AP), for which some states call for. As no agreement has been reached by NPT states parties on the interpretation of safeguards in today’s context, this report’s analysis is based on the view that the safeguards obligations represent the CSA unless the AP is specifically referenced.

Comprehensive Safeguard Agreements

Action 25 specifically calls upon those 18 NNWS that have not yet entered into force CSAs to proceed in doing so. Since May 2010, new CSAs have entered into force in six of those 18 states, leaving only 12 countries left.²⁹⁴ Out of those twelve, only four countries, Eritrea, Liberia, Micronesia, and Sao Tome and Principe, have not yet approved any text for any safeguards agreement.

The role of the IAEA

The Director General of the IAEA repeatedly calls on states that have not already done so to sign and ratify CSAs and APs. In every introductory statement to the IAEA Board of Governors (BoG) he reports on the progress made, the signatory of new agreements, developments in the cases of non-compliance, and the IAEA’s role.²⁹⁵

In its mid-term strategic plan 2012–2017, the IAEA states that it will continue to “encourage Member States to conclude comprehensive safeguards agreements which are in accordance with relevant obligations, and additional protocols, and will provide associated assistance where requested.”²⁹⁶ Further, it will provide states with the necessary guidance and training.²⁹⁷

Non-proliferation cases of concern

According to the IAEA, safeguards are successfully implemented in the majority of member states. There are mainly three countries of concern, the DPRK, Iran, and Syria, in which the IAEA says safeguard obligations are not fully complied with.

Democratic People’s Republic of Korea

The DPRK no longer considers itself a party to the NPT and therefore argues that it has no obligations under any safeguards agreement. Since April 2009 the IAEA has not had inspectors in the DPRK and since December 2002 it has not been permitted to implement safeguards.²⁹⁸

293 Article III of the NPT.

294 Andorra, Chad, Democratic Republic of Congo, Montenegro, Mozambique, Pakistan but only on limited number of installations, Rwanda, and Togo. A few states have signed but not yet put into force the CSA: Benin, Cape Verde, Djibouti, Guinea, and Timor-Leste. For some states—Equatorial Guinea, Guinea Bissau and Vanuatu —CSAs have been approved by the Board of Governors but have not yet been signed. Others—Eritrea, Liberia, Micronesia, São Tomé & Príncipe and Somalia—have not yet submitted CSAs to the IAEA Board of Governors for its consideration.

Status List, Conclusion of Safeguards agreements, additional protocols and small quantities protocols, IAEA, 21 June 2011, http://www.iaea.org/OurWork/SV/Safeguards/documents/sir_table.pdf; Factsheet “NPT Comprehensive Safeguards Agreements – Overview of status”, IAEA, 24 October 2012, http://www.iaea.org/Publications/Factsheets/English/nptstatus_overview.html.

295 Amano, Y, “Introductory Statement to Board of Governors”, IAEA, 13 September 2010, 6 June 2011, 10 September 2012, 29 November 2012.

296 Medium Term Strategy 2012-2017, IAEA, p. 6.

297 Ibid

298 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 2 December 2010.

The IAEA's resolutions GC(55)/RES/13 and GC(56)14, adopted at the 2011 and 2012 IAEA General Conferences urge the DPRK not to conduct further nuclear tests and to comply with its obligations under the UNSC resolutions. They also call on the DPRK to come into full compliance with the NPT and to cooperate promptly with the IAEA.

The Director General urged the DPRK in his introductory statements to BoG meetings to implement all relevant non-proliferation obligations. He also presented a comprehensive report on the IAEA's previous verification activities in the DPRK in September 2011.²⁹⁹ In his statement to the BoG on 10 September 2012 the Director General declared that apparently progress has been made in the construction of a light water reactor, yet without access to the site the IAEA could not fully assess the situation. He called on the DPRK to fully comply with its obligations.³⁰⁰

In February 2012, the new leader Kim Jong-Un announced a moratorium on nuclear and missile tests as well as on uranium enrichment. In exchange, the US government pledged to provide food aid. This agreement became obsolete following the launch of a rocket in April 2012.³⁰¹ In May 2012, the new constitution adopted by the DPRK proclaimed its status as "nuclear-armed nation"³⁰²

On 12 December 2012, the DPRK carried out a new rocket launch, in response to which the UN Security Council adopted a new resolution (UNSCR 2087). In response, the DPRK stated that it would carry out a nuclear test, which it did on 12 February 2013.³⁰³

Iran

In the case of Iran, the conflicting accounts of the situation by the IAEA and Iran show the complexity of the topic. The IAEA has not found Iran to be in non-compliance with its NPT obligations and continues to verify the non-diversion of declared nuclear materials and activities at Iran's nuclear facilities, in accordance with Iran's CSA. However, the IAEA asserts that Iran has "not fully implemented its binding obligations"³⁰⁴ and that the "full implementation of these obligations is needed to establish international confidence in the exclusively peaceful nature of Iran's nuclear programme."³⁰⁵

Since the 2010 NPT Action Plan, twelve reports were produced by the IAEA on Iran, which conclude that the IAEA is "concerned about the possible existence in Iran of past or current undisclosed nuclear-related activities including activities related to the development of a nuclear payload for a missile" and that the IAEA is not in a position to prove the exclusively peaceful nature of Iran's nuclear programme.

The most prominent IAEA report was the one produced in November 2011, which included a 14-page annex summarizing all of the outstanding issues between the IAEA and Iran. Since the 2010 NPT Action Plan was adopted, the IAEA has held seven rounds of talks with Iranian officials with the overall objective to resolve all outstanding issues. However, these talks did not reach the goal of getting an agreement on a "structured approach to resolving all outstanding issues".

Since the 2010 NPT RevCon, three resolutions have been adopted: IAEA BoG resolution GOV/2011/69, IAEA BoG resolution GOV/2012/50, and UNSC resolution SC/1929.

299 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 6 June 2011

300 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 10 September 2012, <http://www.iaea.org/newscenter/statements/2012/amsp2012n011.html>.

301 Levs, J, "N. Korea's launch causes worries about nukes, Iran and the Pacific", CNN, 13 December 2012: <http://edition.cnn.com/2012/12/12/world/asia/north-korea-rocket-launch>.

302 Kwon, K.J, "North Korea proclaims itself a nuclear state in new constitution", CNN, 31 May 2012: <http://edition.cnn.com/2012/05/31/world/asia/north-korea-nuclear-constitution>.

303 McCurry, J. and Branigan, T., "North Korea nuclear test: Pyongyang threatens 'stronger response'", The Guardian, 12 February 2013. More information in the chapter on Non-proliferation obligations.

304 These obligations include, according to the IAEA: The implementation of the provision of the additional protocol; The implementation of the modified Code 3.1 of the subsidiary arrangement general part to the safeguard agreement; The suspension of enrichment related activities; and Suspension of heavy water related activities and clarification of the remaining outstanding issue on the possible military dimensions of Iran's nuclear programme.

305 Amano, Y, Implementation of the NPT Safeguards Agreement and relevant provisions of Security Council resolutions in the Islamic Republic of Iran (GOC/2011/54), IAEA, 2 September 2011.

On the diplomatic front, the P5+1—China, France, Russia, the UK, the US, and Germany—have met with Iran on three occasions since May 2010.³⁰⁶ The first meeting was held in December 2010 in Geneva. The second meeting took place in Istanbul in January 2011. The third meeting took place in Moscow in June 2012. None of these meetings ended with any substantial development. A fourth meeting is planned to be held in Astana, Kazakhstan on 25 February 2013.

Some states continue to express concern about Iran's nuclear programme in international fora, for example during the 2012 IAEA General Conference or the First Committee of the UN General Assembly.³⁰⁷

Syria

Since the 2010 NPT RevCon, four reports have been produced by the IAEA. The most significant was presented to the BoG on 24 May 2011, where the Director General came to the conclusion that the destroyed building in Dair Alzour "was very likely a nuclear reactor". Following this report, the IAEA BoG adopted a resolution³⁰⁸ on 9 June 2011 in which it determined that Syria's "undeclared construction of a nuclear reactor" and failure to provide design information on the Dair Alzour site "constitutes non-compliance with its obligations under its Safeguards Agreement with the Agency in the context of Article XII.C of the Agency's Statute." It calls on Syria to "remedy urgently its non-compliance" with its obligations under the safeguard agreements, to respond to the Director General's request for updated reporting, and to resolve all outstanding questions.

In November 2011 the Director General wrote a letter inviting Syria to address the remaining outstanding issues regarding the full implementation of its safeguard agreement. Syria answered on 20 February 2012 asking for understanding of "the difficult circumstances and the difficult situation that Syria is passing through" and pledging continued cooperation with the IAEA.³⁰⁹

Assessing and evaluating IAEA safeguards

Relevant decisions of the General Conference

In September 2010, the IAEA General Conference adopted as usual a resolution on "Strengthening the effectiveness and improving the efficiency of the safeguards system and the application of the Model Additional Protocol".³¹⁰ Due to procedural questions, the 2011 IAEA General Conference was not able to adopt the resolution on strengthening the IAEA safeguards. However in 2012 the IAEA General Conference again adopted the resolution during its plenary meeting in September.³¹¹ However, at the 2012 IAEA General Conference, the debate was very controversial on the "state-level approach" and operational paragraph 21 of the resolution "requests the Secretariat to report to the Board of Governors on the conceptualization and development of the State-level concept for safeguards." Such a report could be produced for the BoG of June 2013.

306 Background Note: Iran, U.S. Department of State, 17 February 2011.

307 IAEA: The IAEA Director, Canada, Germany, Israel, The Republic of Korea and others; for UN First Committee see: Fihn, B. "Non-Proliferation", First Committee Monitor 1-3, October 2012.

308 Implementation of the NPT safeguards agreement in the Syrian Arab Republic, Resolution adopted by the Board of Governors on 9 June 2011 (GOV/2011/41), IAEA, 9 June 2011.

309 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 5 March 2012, <http://www.iaea.org/newscenter/statements/2012/amp2012n004.html>.

310 Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Additional Protocol (GC(54)/RES/11), IAEA, September 2010.

311 Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Additional Protocol (GC (56)/RES/13), IAEA, September 2012.

IAEA initiatives

The IAEA mid-term plan 2012–2017 includes a section on “Strengthening the effectiveness and improving the efficiency of the Agency’s safeguards and other verification activities.”³¹² It outlines the IAEA’s plan to further develop a state-level approach to the planning, implementation, and evaluation of the safeguards activities.³¹³

The department of safeguards itself has developed a long-term strategic plan from 2012–2023.³¹⁴ It addresses the conceptual framework of the IAEA safeguards system, its legal authority, the technical capabilities, and the available resources.³¹⁵ The three main long-term strategic objectives are to:

1. Deter the proliferation of nuclear weapons, by detecting early the misuse of nuclear material or technology, and by providing credible assurances that States are honouring their safeguards obligations;
2. Contribute to nuclear arms control and disarmament, by responding to requests for verification and other technical assistance associated with related agreements and arrangements; and
3. Continually improve and optimize departmental operations and capabilities to effectively carry out the IAEA’s verification mission.³¹⁶

The IAEA Enhancing Capabilities of the Safeguards Analytical Services project was initiated in 2010. In his introductory statement to the BoG on 6 June 2011, the IAEA Director General announced the new Clean Laboratory at Seibersdorf “is now fully operational and has already analysed its first samples.”³¹⁷ The work on a Nuclear Material Laboratory is in progress and scheduled to be completed in 2014.³¹⁸ The scope of the ECAS project has been extended to include additional activities. Additional costs will be met through extra-budgetary funding.³¹⁹

Financial support

While the annual budget for the IAEA safeguards and nuclear verification programme does increase each year,³²⁰ it does not appear to be a very significant change. The financial contribution for safeguards will remain the same and the increased budget will most likely be offset by inflation, changes in exchange rates, and other similar factors.

Technical improvements

The IAEA continued to work on the IAEA Safeguards Information System and Reengineering Project to increase the effectiveness and efficiency of information processing by replacing the current information system with a modern one. The Secretariat has also continued to utilize high-resolution commercial satellite-based sensors to improve its ability to monitor nuclear sites and facilities worldwide.³²¹ Germany has reported on taking steps to facilitate IAEA access to commercially available German satellite imagery.³²²

312 Medium Term Strategy 2012–2017, IAEA; http://www.iaea.org/About/mts2012_2017.pdf.

313 Ibid.

314 Cooley, Jill, Department of Safeguards Long-Term Strategic Plan, 2012–2023, IAEA, 1 November 2010.

315 IAEA Annual Report 2009, as of 31 December 2009, Ch. Safeguards, http://www.iaea.org/Publications/Reports/Anrep2009/anrep2009_full.pdf.

316 Ibid.

317 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 6 June 2011, <http://www.iaea.org/newscenter/statements/2011/amsp2011n012.html>.

318 Scheland, M, “Science Essential in Verifying Peaceful Use of Nuclear Material”, IAEA paper, 5 January 2012.

319 Amano, Y, Introductory Statement to Board of Governors, by IAEA Director General, IAEA, 10 September 2012, <http://www.iaea.org/newscenter/statements/2012/amsp2012n011.html>.

320 2009: € 117 150 480, 2010: € 121 542 584, 2011: € 123 143 928, 2012: € 128 780 549, and estimated for 2013: € 128 784 718.

321 Strengthening the effectiveness and improving the efficiency of the safeguards system and application of the Model Additional Protocol (GC(55)/16), 55th IAEA General Conference, 26 July 2011, http://www.iaea.org/About/Policy/GC/GC55/GC55Documents/English/gc55-16_en.pdf.

322 Germany’s response to RCW questionnaire.

Other initiatives and organisations

The European Safeguards R&D Association (ESARDA) held its annual meetings on 16–20 May 2011 in Budapest³²³ and on 22–24 May 2012 in Luxembourg³²⁴. Meetings organised by ESARDA together with the Institute of Nuclear Materials Management (INMM) have taken place on 16-20 October 2011 in Aix-en-Provence³²⁵ and on 23–28 September 2012 in Savannah, Georgia (US)³²⁶. The Asia Pacific Safeguards Network held its third plenary meeting in Bangkok from 29–31 October 2012.³²⁷

After its first report on “Optimizing the IAEA Safeguard System” published in 2011, the Centre for International Security and Arms Control Studies in Paris (CESIM) has, in cooperation with Switzerland, published a second report on December 2012 on “Strengthening cooperation between the IAEA and State or Regional systems of accounting for and control of nuclear material”.

In connection with this second report, Switzerland held a side event to further discuss it on the margins of the IAEA General Conference in September 2012.

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- 323 33rd Esarda Annual Meeting, European Safeguards Research and Development Association, 16-20 May 2011, http://esarda2.jrc.it/events/esarda_meetings/2011-Budapest/01-index.html.
- 324 34th Esarda Annual Meeting, European Safeguards Research and Development Association, 22-24 May 2012, http://esarda2.jrc.it/events/esarda_meetings/luxembourg-2012/index.html.
- 325 ESARDA-INMM meeting Aix-en-Provence 2011, http://esarda2.jrc.it/events/other_meetings/2011-Aix-en-Provence/index.html.
- 326 The 9th International Conference on Facility Operations-Safeguards Interface, <http://esarda2.jrc.it/events/INMM-ESARDA/index.html>.
- 327 Draft Agenda, APSN, October 2012, http://www.apsn-safeguards.org/pdfs/APSN_Agenda_October2012.pdf.

OTHER NON-PROLIFERATION INSTRUMENTS

- **Action 28:** The Conference encourages all States parties which have not yet done so to conclude and to bring into force additional protocols as soon as possible and to implement them provisionally pending their entry into force.
- **Action 30:** The Conference calls for the wider application of safeguards to peaceful nuclear facilities in the nuclear-weapon States, under the relevant voluntary offer safeguards agreements, in the most economic and practical way possible, taking into account the availability of IAEA resources, and stresses that comprehensive safeguards and additional protocols should be universally applied once the complete elimination of nuclear weapons has been achieved.
- **Action 31:** The Conference encourages all States parties with small quantities protocols which have not yet done so to amend or rescind them, as appropriate, as soon as possible.

Additional Protocol (AP)

The Model AP³²⁸ to the IAEA Comprehensive Safeguards Agreement (CSA) requires states to provide the IAEA with information covering all aspects of a states' nuclear fuel cycle. It also ensures IAEA short-notice inspector access to all buildings on a nuclear site and other nuclear-related locations, information on the manufacture and export of sensitive nuclear-related technologies, and inspection mechanisms for manufacturing and import locations. It also enables the IAEA to use the most advanced verification technologies.³²⁹

As of 24 October 2012, 119 states have additional protocols in force.³³⁰ 20 states³³¹ have signed an AP but have still not put it into force. Since May 2010, the AP has entered into force for 18 additional states parties.³³²

Small Quantities Protocol (SQP)

States with little or no nuclear material may conclude, in addition to the CSA, a protocol "which holds in abeyance the implementation of most of the detailed safeguard procedures of comprehensive safeguards agreements."³³³ In 2005, the IAEA BoG decided to modify the standard text of the SQP³³⁴ and change the criteria for eligibility. States with existing or planned facilities are no longer eligible for an SQP. States with a revised SQP in force need to report on their material and inform the IAEA about changes to enable it to conduct verification activities in the field.³³⁵ Since May 2010, nine

328 Model Protocol Additional to the Agreement(s) between state(s) and the International Atomic Energy Agency for the Application of Safeguards (INFCIRC/540 (Corrected)), IAEA, <http://www.iaea.org/Publications/Documents/Infcircs/1997/infirc540c.pdf>.

329 IAEA Safeguards: Stemming the Spread of Nuclear Weapons, IAEA http://www.iaea.org/Publications/Factsheets/English/S1_Safeguards.pdf.

330 Safeguards and verification, status of Additional Protocols, IAEA, 28 October 2012, www.iaea.org/OurWork/SV/Safeguards/protocol.html.

331 Belarus, Benin, Bosnia and Herzegovina, Cameroon, Cape Verde, Côte d'Ivoire, Djibouti, Honduras, India (on civilian nuclear separation), Iran, Kiribati, Liechtenstein, Malaysia, Moldova, Senegal, Serbia, Thailand, Timor-Leste, Tunisia, and Zambia.

332 Albania, Andorra, Bahrain, DRC, Costa Rica, Gambia, Guinea, Iraq, Kyrgyzstan, Mexico, Montenegro, Morocco, Mozambique, Namibia, Romania, Swaziland, Togo, United Arab Emirates, and Vietnam.

333 Safeguards and verification, status of Additional Protocol, IAEA, 20 February 2012, http://www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf.

334 IAEA Board of Governors, The Standard Text of Safeguards Agreements in connection with the Treaty on the Non-Proliferation of Nuclear Weapons (GOV/INF/276/Mod.1) and GOV/INF/276/Mod.1/Corr.1, IAEA, February 2006.

335 The Safeguards System of the International Atomic Energy Agency, IAEA, http://www.iaea.org/OurWork/SV/Safeguards/documents/safeg_system.pdf.

states have amended their SQPs,³³⁶ while 53³³⁷ states still have not yet amended or rescinded their SQP. In addition, one country has signed a new SQP,³³⁸ two states³³⁹ have rescinded their SQP, and three more SQPs³⁴⁰ have entered into force.³⁴¹

Voluntary Offer Agreements

For the five nuclear weapons states, special safeguards agreements have been established, since they are not required by the NPT to accept safeguards. The so-called Voluntary Offer Safeguard Agreements (VOAs) between the IAEA and a nuclear weapon state usually follow the format of INFCIRC/153 (Corr.) but vary in the scope of materials and facilities covered. They also include the possibility of withdrawing materials and facilities for safeguards.³⁴² No changes or amendments to the VOAs have been reported since the 2010 NPT Action Plan was adopted.

336 Antigua and Barbuda, El Salvador, Gambia, Guatemala, Panama, Republic of Moldova, San Marino, Swaziland, and Zimbabwe.

337 Afghanistan, Andorra, Barbados, Belize, Bhutan, Bolivia, Brunei Darussalam, Cambodia, Cameroon, Dominica, Ethiopia, Fiji, France, Gabon, Grenada, Guyana, Haiti, Jordan, Kiribati, Kuwait, Kyrgyzstan, Lao P.D.R., Maldives, Mauritania, Mongolia, Myanmar, Namibia, Nauru, Nepal, Netherlands, New Zealand, Oman, Papua New Guinea, Paraguay, St Kitts and Nevis, Saint Lucia, St Vincent and the Grenadines, Samoa, Saudi Arabia, Sierra Leone, Solomon Islands, Sudan, Suriname, Togo, Tonga, Trinidad and Tobago, Tuvalu, United Arab Emirates, United Kingdom, United States of America, Republic of Yemen and Zambia.

338 Guinea.

339 Ghana and Nigeria.

340 DRC, Montenegro and Mozambique.

341 taken from http://www.iaea.org/OurWork/SV/Safeguards/documents/sir_table.pdf.

342 The Safeguards System of the International Atomic Energy Agency, IAEA, http://www.iaea.org/OurWork/SV/Safeguards/documents/safeg_system.pdf.

EXPORT CONTROL AND NUCLEAR COOPERATION

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Action 35: The Conference urges all States parties to ensure that their nuclear related exports do not directly or indirectly assist the development of nuclear weapons or other nuclear explosive devices and that such exports are in full conformity with the objectives and purposes of the Treaty as stipulated, particularly, in articles I, II and III of the Treaty, as well as the decision on principles and objectives of nuclear non-proliferation and disarmament adopted in 1995 by the Review and Extension Conference.
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Action 36: The Conference encourages States parties to make use of multilaterally negotiated and agreed guidelines and understandings in developing their own national export controls.
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Action 37: The Conference encourages States parties to consider whether a recipient State has brought into force IAEA safeguards obligations in making nuclear export decisions.
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Action 38: The Conference calls upon all States parties, in acting in pursuance of the objectives of the Treaty, to observe the legitimate right of all States parties, in particular developing States, to full access to nuclear material, equipment and technological information for peaceful purposes.
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Action 39: States parties are encouraged to facilitate transfers of nuclear technology and materials and international cooperation among States parties, in conformity with articles I, II, III and IV of the Treaty, and to eliminate in this regard any undue constraints inconsistent with the Treaty.
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Action 44: The Conference calls upon all States parties to improve their national capabilities to detect, deter and disrupt illicit trafficking in nuclear materials throughout their territories, in accordance with their relevant international legal obligations, and calls upon those States parties in a position to do so to work to enhance international partnerships and capacity-building in this regard. The Conference also calls upon States parties to establish and enforce effective domestic controls to prevent the proliferation of nuclear weapons in accordance with their relevant international legal obligations.

Direct or indirect assistance

This action does not add any additional obligations aside from what is already in the NPT and previous decisions, but it does serve as a reminder that states are obliged to ensure that their nuclear-related exports do not directly or indirectly assist the development of nuclear weapons and that the 1995 decision on objectives and purposes of the Treaty requires states parties to promote transparency in nuclear-related export controls. The NPT states parties that have concluded nuclear energy cooperation agreements with non-parties to the NPT (see section on nuclear cooperation with India, Pakistan, and Israel) do usually not provide transparent information on how such nuclear exports do not directly or indirectly assist the development of nuclear weapons.

Export Controls

Action 36 refers to the existing agreed guidelines and understandings. This usually refers to the guidelines of the Nuclear Suppliers Group (NSG) and the Zangger Committee. All member states of these groups are implementing such guidelines in their national legislation concerning nuclear exports.³⁴³

Nuclear cooperation and safeguard agreements³⁴⁴

Apart from 13 states,³⁴⁵ all non-nuclear weapon states parties to the NPT have signed a CSA. The five NWS of the NPT have Voluntary Offer Agreements (VOAs) in some of their nuclear material and facilities dedicated to peaceful uses of nuclear energy (see previous chapter).³⁴⁶

A multitude of nuclear cooperation deals have been concluded in the past year between NPT states parties, none involving the 13 states without a CSA in force.³⁴⁷ For the majority of those deals, the implementation of IAEA safeguard obligations is an explicit part of the agreement. This shows a wide acceptance of IAEA safeguards as a valid verification tool for the “peaceful uses” of nuclear energy and proliferation prevention.

States non-parties to the NPT

For States non-parties to the NPT, the IAEA concludes so-called item-specific safeguard agreements according to INFCIRC/66/Rev.2 with the concerned state. Instead of covering all the nuclear activities of a state they only apply to the nuclear material, facilities, equipment, and/or materials specified in the agreement. “Under such agreements, the Agency is required to ensure that the nuclear material and other specified items are not used for nuclear weapons or other nuclear explosive devices or in such a way as to further any military purpose.”³⁴⁸ Currently the IAEA is implementing these agreements with India,³⁴⁹ Israel,³⁵⁰ and Pakistan.³⁵¹

By avoiding defining safeguards obligations, the phrase “brought into force IAEA safeguard obligations” has been interpreted to allow deals with states non-parties to the NPT, since they are implementing the item-specific safeguard agreements on their declared peaceful facilities. Since the adoption of the 2010 NPT Action Plan, several trade agreements between an NPT state and a non-NPT state have been made.³⁵²

343 See chapter on nuclear cooperation for details on these groups and their recent undertakings.

344 See chapter on non-proliferation obligations for details.

345 Benin, Cape Verde, Djibouti, Eritrea, Equatorial Guinea, Guinea, Guinea Bissau, Liberia, Micronesia, São Tomé & Príncipe Somalia, Timor-Leste, Togo, and Vanuatu.

346 “IAEA Safeguards Glossary 2001 Edition”, International Nuclear Verification Series No. 3, June 2002, http://www-pub.iaea.org/MTCD/publications/PDF/nvs-3-cd/PDF/NVS3_scr.pdf.

347 2010 NPT Review Conference Action Plan Monitoring Report, Peaceful Uses of Nuclear Energy, Reaching Critical Will, 29 June 2011, p. 15.

348 The Safeguards System of the International Atomic Energy Agency, IAEA, http://www.iaea.org/OurWork/SV/Safeguards/documents/safeg_system.pdf.

349 Safeguards agreements in force: INFCIRC/211, INFCIRC/260, INFCIRC/360, INFCIRC/374, INFCIRC/433, INFCIRC/754.

350 Safeguards agreements in force: INFCIRC/249/Add.1.

351 Safeguards agreements in force: INFCIRC/34, INFCIRC/116, INFCIRC/135, INFCIRC/239, INFCIRC/393, INFCIRC/418, INFCIRC/705, INFCIRC/816.

352 See chapter on Universality for details.

Illicit trade and trafficking of nuclear material³⁵³

IAEA Instruments

The IAEA has developed several instruments dealing with illicit trade and trafficking of nuclear material:

The IAEA illicit trafficking database (ITDB) records and analyzes incidents of illicit trafficking in nuclear and other radioactive material.³⁵⁴ As of December 2011 the ITDB has 113 states participating in the programme.³⁵⁵ At the time of going to print with this report, no new incidents were reported in 2012.³⁵⁶

EU initiatives

The European Union (EU) carries out a significant amount of activities related to combating illicit trafficking of nuclear material, including:

- In June 2011, the EU's Joint Research Centre (JRC) and its Institute for Transuranium Elements was reported to have carried out research on new methods of analysing radioactive materials to fight illicit trafficking,³⁵⁷ and
- The JRC has also carried out support programmes to the IAEA, where it has developed metrological tools to organisations and laboratories in the nuclear and environmental field.³⁵⁸

EUROPOL and INTERPOL

Since May 2010, Europol has started or completed different projects and initiatives related to illicit trafficking on nuclear and radiological materials to a greater or lesser extent.³⁵⁹ Interpol has also implemented some projects in this field.³⁶⁰

Newly Independent States (NIS) Nuclear Trafficking Database

The NIS Nuclear Trafficking Database³⁶¹ is a project of the Nuclear Threat Initiative (NTI), where researchers are compiling information from hundreds of foreign and domestic news sources as well as from field reports. Since the adoption of the 2010 NPT Action Plan, the NIS Nuclear Trafficking Database has reported several incidents.³⁶²

353 For more details on these projects and programmes please see the second NPT Action Plan Monitoring report, http://www.reachingcriticalwill.org/images/documents/Publications/2010-Action-Plan/NP_Report_RCW.pdf.

354 IAEA information system on illicit trafficking and other unauthorized activities and events involving nuclear and other radioactive materials, IAEA, <http://www-ns.iaea.org/downloads/security/itdb-fact-sheet.pdf>.

355 "Combating Illicit Trafficking in Nuclear and other Radioactive Material", IAEA Nuclear Security series, No. 6, December 2007, http://www-pub.iaea.org/MTCD/publications/PDF/pub1309_web.pdf.

356 Illicit Trafficking Database, IAEA, 2 November 2012, <http://www-ns.iaea.org/security/itdb.asp>.

357 New method of analysing radioactive materials to fight illicit trafficking, European Commission, 29 June 2011.

358 Providing metrological tools to support nuclear safeguards activities, European Commission, http://ec.europa.eu/dgs/jrc/index.cfm?id=1710&obj_id=PROJECTSJPB53102&dt_code=ACT&lang=en.

359 Project Rutherford; assesses the criminal activities related to the illicit trafficking on nuclear and radiological materials; The EU Bomb Data System (EBDS); The system is intended for sharing intelligence and technical information on explosives, explosive and incendiary devices, and chemical, biological, radiological, nuclear, and explosive (CBRNe)-related incidents; The Early Warning System on CBRNe, explosives, and firearms; is a communication system intended for the circulation of warnings (alerts) about the theft, loss, disappearance, and lack of control of any material or precursors that could be used for terrorist purposes or when a terrorist background cannot be discarded.

360 Project Geiger aims at gathering comprehensive data on the illicit traffic in nuclear and radiological materials, analysing the threats, and assisting with international investigations. The Global Radiological and Nuclear Terrorism Prevention Conference marked the public launch of INTERPOL's Radiological and Nuclear Terrorism Prevention Unit.

361 NIS Nuclear Trafficking Database, Nuclear Threat Initiative, <http://www.nti.org/db/nistraff/index.html>.

362 May 2010: Ukraine's Security Service Detains seized strontium-90; 1 March 2010: Japan Pledges Funding to Equip Uzbek Customs Checkpoints; 22 April 2010: Ukraine to Receive Mobile Radiation Detection Vehicle with the Help from IAEA, Finland and Sweden; 14 December 2010: A Cargo with radioactive Scrap Metal En Route to Turkey Detained in Kazakhstan.

Taken from "Illicit Trafficking Incidents in the NIS – Summary Table 2010", NTI, http://www.nti.org/media/pdfs/2010_trafficking_table.pdf?_=1321385712&_=1321385712.

For 2011 eleven incidents were reported. More details "2011 Illicit Trafficking Incidents in the NIS", NTI, http://www.nti.org/media/pdfs/2011_illicit_trafficking_incidents_in_the_NIS.pdf?_=1349283001&_=1349283001 For 2012 no numbers have been released yet.

Nuclear cooperation

In the context of the NPT, states have debated whether or not language such as that in actions 38 and 39 imply obligations of states with nuclear power to transfer technology to non-nuclear states that are party to the NPT. It is difficult to ascertain systematically how the facilitation of such access has been achieved in the past or what the reaction to such facilitation has been. These questions are beyond the scope of this report.

However, by examining statements at the IAEA General Conference, IAEA press releases, and IAEA reports and documents, we have sought to find any potential critiques or concerns about current procedures of cooperation in the “peaceful uses” of nuclear energy. Additionally we reviewed statements delivered during the UNGA General Debate and its First Committee. Some states have raised the issue in international fora and called for equal treatment of NPT states parties trying to pursue nuclear energy, but no detailed examples have been given.

Existing restrictions on the development and trade of nuclear technology

The Nuclear Suppliers Group (NSG) is a consortium of nuclear supplier countries that seeks to contribute to non-proliferation efforts by drawing up guidelines for nuclear-related exports.³⁶³

The Zangger Committee is another group of nuclear supplier states,³⁶⁴ whose objective is to reach a common understanding on (i) the definition of “equipment or material especially designed or prepared for the processing, use or production of special fissionable material;” and (ii) the conditions and procedures that would govern exports of such equipment or material in order to meet the obligations of article III of the NPT on the basis of fair commercial competition. The Committee is an informal group and its decisions are not legally-binding.

These two export control regimes have been criticized for putting additional restrictions on nuclear technology exports, and thereby effectively preventing countries from participating in the fullest possible exchange of activities for developing “peaceful uses” of nuclear energy. This criticism has continued after the adoption of the NPT Action Plan.³⁶⁵

However, members of these two export control regimes argue that all members of the NPT are able to enjoy the benefits of peaceful uses of nuclear energy “in accordance with their international obligations”.³⁶⁶ What these “international obligations” should consist of is difficult to objectively define without a decision by, for example, an NPT Review Conference. Some members of these export control regimes want to include the IAEA additional protocol, together with other decisions from other fora, such as UNSC resolutions and resolutions from the IAEA BoG. Others believe that it should only include the original CSA as was agreed upon at the time of the conclusion of the NPT in 1968.

Comments in international fora

As in previous years before the 2010 NPT Action Plan was adopted, developing states have used international fora such as the UNGA to highlight the right of all states to use nuclear technology peacefully. However, most references after May 2010 are generic calls for the “inalienable right” to develop nuclear energy and few countries have specified any incidents of lack of respect for their choices. Such statements were made at the UNGA general debate, the UNGA First Committee, the IAEA General Conference as well as the 2012 NPT Preparatory Committee.

363 NSG Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Materials, Software and Related Technology, IAEA document INFCIRC/254, Part 2.

364 Argentina, Australia, Austria, Belarus, Belgium, Bulgaria, Canada, China, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Kazakhstan, South Korea, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States.

365 At the September 2010 general debate of the UNGA, the Cuban representative argued “the existence of a club of the privileged and the countries of the South denial of the right to a peaceful use of nuclear energy should cease.”

366 Example from statement made by Australia at the IAEA General Conference, 22 September, 2010. <http://www.iaea.org/About/Policy/GC/GC54/Statements/australia.pdf>.

On 26–27 May 2011, the G8 met in Deauville, France, and agreed on a declaration on “Renewed commitment for freedom and democracy”. In this declaration, the G8 declared its support for “the exchange, in conformity with the obligations of the NPT, of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy, in particular for developing countries.”³⁶⁷

367 Renewed commitment for freedom and democracy, G8 declaration, 27 May 2011, <http://www.g20-g8.com/g8-g20/g8/english/live/news/renewed-commitment-for-freedom-and-democracy.1314.html>.

NUCLEAR SECURITY

- **Action 40:** The Conference encourages all States to maintain the highest possible standards of security and physical protection of nuclear materials and facilities.
- **Action 41:** The Conference encourages all States parties to apply, as appropriate, the IAEA recommendations on the physical protection of nuclear material and nuclear facilities (INFCIRC/225/Rev.4 (Corrected)) and other relevant international instruments at the earliest possible date.
- **Action 42:** The Conference calls on all States parties to the Convention on the Physical Protection of Nuclear Material to ratify the amendment to the Convention as soon as possible and encourages them to act in accordance with the objectives and the purpose of the amendment until such time as it enters into force. The Conference also encourages all States that have not yet done so to adhere to the Convention and adopt the amendment as soon as possible.
- **Action 43:** The Conference urges all States parties to implement the principles of the revised IAEA Code of Conduct on the Safety and Security of Radioactive Sources, as well as the Guidance on the Import and Export of Radioactive Sources approved by the IAEA Board of Governors in 2004.
- **Action 45:** The Conference encourages all States parties that have not yet done so to become party to the International Convention for the Suppression of Acts of Nuclear Terrorism as soon as possible.
- **Action 61:** Encourage States concerned, on a voluntary basis, to further minimize highly enriched uranium in civilian stocks and use, where technically and economically feasible.

International Security Standards

IAEA instruments

The IAEA has classified the following instruments as fundamental for nuclear security:³⁶⁸

- Convention on the Physical Protection of Nuclear Material (CPPNM);
- International Convention for the Suppression of Acts of Nuclear Terrorism (Nuclear Terrorism Convention);
- Security Council resolutions 1373 (2001) and 1540 (2004);
- Code of Conduct on Safety and Security of Radioactive Sources;
- Physical Protection Objectives and Fundamental Principles;
- INFCIRC/225/Rev.4 (Corrected);
- Nuclear Security—Measures to Protect Against Nuclear Terrorism, 2006 GC(50)/13; and
- Resolution 1887 Sep 2009, nuclear security and terrorism.

³⁶⁸ Fundamental nuclear security documents, IAEA, http://www-ns.iaea.org/security/security_documents.asp?s=4&l=29.

Convention on the Physical Protection of Nuclear Material:

- Parties: 148
- Signatures: 44
- Changes since May 2010: Bahrain (09 June 2010 entry into force), Lao P.D.R. (29 October 2010 entry into force), Lesotho (17 September 2010 entry into force) Vietnam, 3 Nov 2012 entry into force)

Amendment to Convention on the Physical Protection of Nuclear Material:

- Parties: 63
- Remaining states needed to bring amendment into force: 40
- States parties to the Convention that have not yet ratified the amendment: 88

United Nations instruments

- UN Security Council (UNSC) Resolution 1373³⁶⁹ on “Threats to international peace and security caused by terrorist acts” was adopted under Chapter VII of the UN Charter on 28 September 2001;³⁷⁰ and
- UNSC 1540³⁷¹ on the non-proliferation of weapons of mass destruction was adopted unanimously under Chapter VII of the UN Charter on 28 April 2004.³⁷²

The UNSC extended the mandate of resolution 1373 (2001) three times until 25 April 2021.³⁷³ In 2010, the 1540 Committee adopted revised procedures to rationalize, improve, and accelerate response to assistance requests and facilitate matchmaking.³⁷⁴ The UNSC also adopted the 10th programme of work, for 1 June 2011 to 31 May 2012, for the 1540 Committee, in S/2011/380. The Committee will focus its attention on five main areas of work: (i) monitoring and national implementation; (ii) assistance; (iii) cooperation with international organizations, including the Security Council Committees established pursuant to resolutions 1267 (1999) and 1373 (2001); (iv) transparency and media outreach; and (v) administration and resources.

The UNSC adopted resolution 1977 on 20 April 2011. The resolution is a follow-up to UNSC resolution 1540 (2004). The resolution extends the mandate of the 1540 Committee to monitor efforts to prevent WMD from being acquired by terrorists or other non-state actors for another 10 years.³⁷⁵

Through resolution 1540, the UNSC called upon all states to present to the 1540 Committee a first report, not later than six month from the adoption of the resolution, i.e. 28 October 2004, on steps they have taken or intend to take to implement this resolution. Since the conclusion of the 2010 NPT RevCon, several countries have submitted reports³⁷⁶ and some have made requests for assistance. There has also been a significant amount of workshops and outreach activities done by the 1540 Committee. A full list of these activities can be found at the 1540 Committee website.³⁷⁷

In February 2012 a review of the implementation of resolution 1540(2004) in 2011 was transmitted to the UNSC stating an “upward trend in progress made by States in implementing resolution 1540(2004).”³⁷⁸

369 UNSC Resolution 1373 (2001), UNSC, 28 September 2001.

370 Ibid.

371 UNSC Resolution 1540 (2004), UNSC, 28 April 2004.

372 Ibid.

373 UNSC Resolution 1673 (2006), UNSC Resolution 1801(2008) and UNSC Resolution 1977 until 25 April 2021 <http://www.un.org/documents/scres.htm>.

374 Interim working procedures for processing assistance requests, UN official website, <http://www.un.org/sc/1540/pdf/AssistanceProcessingProcedure.pdf>.

375 UNSC Resolution 1977, (2011).

376 List of National Reports by Submitting Member States, UN 1540 Committee, <http://www.un.org/sc/1540/nationalreports.shtml>.

377 Chairperson’s Statements at Outreach Activities, UN 1540 Committee, <http://www.un.org/sc/1540/chairpersonsstatements.shtml>.

378 UN S/2012/79, paragraph 39.

Physical protection of nuclear material

The Convention on the Physical Protection of Nuclear Material (CPPNM) entered into force on 8 February 1987. It is the only legally-binding international instrument in the area of physical protection of nuclear material. The Convention has 148 parties and 44 signatories. Since May 2010 it has entered into force for four states parties.³⁷⁹ 47 NPT states parties are still not parties to the Convention.³⁸⁰

From 4–8 July 2005, the IAEA held a “CPPNM Amendment Conference” where an amendment to the treaty was adopted. It makes it legally-binding for states parties to protect nuclear facilities and material in peaceful and domestic use, and in storage as well as transport.³⁸¹ For the amendment to enter into force, two-thirds of the states parties to the Convention have to ratify, accept, or approve the amendment. At the time of the conclusion of the NPT RevCon in May 2010, 35 contracting parties to the CPPNM had ratified the amendment. Since then, 28³⁸² additional countries have ratified it. However, 85 states³⁸³ are parties to the Convention but have not yet ratified the amendment.³⁸⁴

The IAEA recommendations on the physical protection of nuclear material and nuclear facilities (INFCIRC/225/Rev.4) were published in 2005.³⁸⁵ In 2011 the IAEA published a fifth revised version.³⁸⁶ The fifth version is intended to assist member states in further implementing a comprehensive physical protection regime. As the document does not entail a legal commitment and does not require signature and ratification of member states, it is difficult to assess compliance levels.

Handling of radioactive sources

The IAEA Code of Conduct on the Safety and Security of Radioactive Sources³⁸⁷ was approved by the IAEA BoG in September 2003.³⁸⁸ While not covering nuclear material addressed in the CPPNM,³⁸⁹ the Code applies to all other radioactive sources “that may pose a significant risk to individuals, society and the environment.”³⁹⁰

The supplementary Guidance on the Import and Export of Radioactive Sources³⁹¹ was approved by the IAEA BoG in September 2004.³⁹² It recommends the designation of a point of contact in every state, responding to a self-assessment questionnaire developed by the IAEA, and that states should become parties of the Convention on Nuclear Safety in accordance with operative paragraph 8 of GC(48)/RES/10/D.

379 Convention on the Physical Protection of Nuclear Material, IAEA, 17 October 2012, http://www.iaea.org/Publications/Documents/Conventions/cppnm_status.pdf.

380 Ibid.

381 States Agree on Stronger Physical Protection Regime, IAEA, 8 July 2005, <http://www.iaea.org/newscenter/pressreleases/2005/prn200503.html>.

382 Amendment to the Convention on Physical Protection of Nuclear material, IAEA, 13 February 2013, http://www.iaea.org/Publications/Documents/Conventions/cppnm_amend_status.pdf.

383 Ibid.

384 Ibid and Convention on the Physical Protection of Nuclear Material, IAEA, 29 September 2010, http://www.iaea.org/Publications/Documents/Conventions/cppnm_status.pdf.

385 The Physical Protection of Nuclear Material and Nuclear Facilities, IAEA, June 1999, <http://www.iaea.org/Publications/Documents/Infircs/1999/infirc225r4c.pdf>.

386 Nuclear security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities /INFCIRC/225/Revision 5), IAEA Nuclear Security Series No. 13, January 2011.

387 Code of Conduct on the Safety and security of Radioactive sources and the Supplementary Guidance on the Import and Export of Radioactive Sources (INFCIRC/663), IAEA, 29 December 2005, <http://www.iaea.org/Publications/Documents/Infircs/2005/infirc663.pdf>.

388 Measures to Strengthen International Co-operation in Nuclear, Radiation and Transport Safety and Waste Management GC(847)/RES/7, IAEA, September 2003, <http://www.iaea.org/About/Policy/GC/GC47/Resolutions/gc47res7.pdf>.

389 Except for sources incorporating plutonium-239.

390 Code of Conduct on the Safety and security of Radioactive sources and the Supplementary Guidance on the Import and Export of Radioactive Sources (INFCIRC/663), IAEA, 29 December 2005, p. 4.

391 Guidance on the Import and Export of Radioactive Sources, IAEA, March 2005, http://www-pub.iaea.org/MTCD/publications/PDF/Imp-Exp_web.pdf.

392 The IAEA General Conference welcomed this approval in resolution GC(48)/RES/10.D, endorsing the guidance while recognizing it is not a legally binding instrument.

115 states have expressed their support for the Code in a letter to the Director General of the IAEA.³⁹³ 51 countries explicitly support all aspects of the supplementary Guidance on the Import and Export of Radioactive Sources.³⁹⁴ Most states have designated a national point of contact for radioactive sources; however, 14 states have not yet done so.³⁹⁵ Numerous states have not responded at all to the IAEA self-assessment questionnaire.³⁹⁶ A few states have withdrawn their political commitment to the Code as of 6 May 2010.³⁹⁷

Nuclear Security Summit

Just before the 2010 NPT RevCon, the US hosted the first Nuclear Security Summit (NSS), which resulted in a joint communiqué and a work plan.³⁹⁸ Work on this plan is taking place at the moment; some recommendations also deal with illicit trafficking of nuclear materials.

The follow-up meeting held in Seoul, Republic of Korea in March 2012 focused on discussing how to strengthen the international nuclear security regime to prevent nuclear terrorism. The final communiqué of the 2012 Summit translates the outcome from the Washington meeting in 2010 into concrete actions and provides measures to prevent nuclear and radiological terrorism.³⁹⁹ Some of these actions include: "minimization of highly enriched uranium (HEU); ratification of relevant international agreements on nuclear security such as the amended Convention on Physical Protection of Nuclear Material and International Convention for the Suppression of Acts of Nuclear Terrorism; and the establishment of Centre's of Excellence to provide relevant training and education."⁴⁰⁰ The next NSS will be held in the Netherlands in 2014.

Meetings on nuclear security

The first International Regulators Conference on Nuclear Security was held on 4–6 December 2012 in Washington, D.C. The conference was hosted by the United States Nuclear Regulatory Commission and was direct result of the 2012 Nuclear Security Summit. Regulators were discussing how to enhance regulatory approaches at civilian facilities and the establishment of the adequate regulatory framework.⁴⁰¹

On 1–5 July 2013, the IAEA will host an International Conference on Nuclear Security. Director-General Amano stated it would be one of the most important meetings the IAEA will hold in 2013. The ministerial conference is supposed to underline the growing international commitment and achieve tangible improvements in nuclear security.⁴⁰²

393 List of States that have made a political commitment with regard to the Code of Conduct on the Safety and Security of Radioactive Sources and the Supplementary Guidance on the Import and Export of Radioactive Sources, IAEA, 7 January 2013, http://www.iaea.org/Publications/Documents/Treaties/codeconduct_status.pdf.

394 Ibid.

395 Ibid.

396 Ibid.

397 Democratic Republic of Congo, Egypt, Honduras, Kazakhstan, Nicaragua, Senegal.

398 Final Communiqué of the Nuclear Security Summit, White House official website, 13 April 2010, <http://www.whitehouse.gov/the-press-office/communiqu-washington-nuclear-security-summit>.

399 Irsten, G., CD breaks for recess without any progress on substantive work, *Reaching Critical Will*, 27 March 2012.

400 Republic of Korea statement in the Conference on Disarmament, 27 March 2012; www.reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2012/statements/part1/27march_rok.pdf.

401 "IAEA Chief Calls for Action to Improve Nuclear Security", IAEA, 5 December 2012, <http://www.iaea.org/newscenter/news/2012/improvens.html>.

402 Ibid and List of IAEA meetings on Nuclear Security in 2013: <http://www-ns.iaea.org/meetings/default.asp?tme=ns&yr=2013&s=10&l=79&submit.x=21&submit.y=5>.

Nuclear terrorism

United Nations instruments

Both the International Convention for the Suppression of Acts of Nuclear Terrorism⁴⁰³ and the 2006 Measures to Protect Against Nuclear Terrorism⁴⁰⁴ focus on the danger of proliferation of nuclear material into the possession of so-called non-state actors.

The UN General Assembly adopted the International Convention for the Suppression of Acts of Nuclear Terrorism on 13 April 2005.⁴⁰⁵ It entered into force on 7 July 2007 and currently has 115 signatories and 82 parties.⁴⁰⁶ States parties to the Convention have the obligation to establish the offences within the scope of the convention as criminal offences under their national laws. They are also required to establish jurisdiction, both territorial and extra-territorial, over the offences set forth in the Convention and to cooperate with each other in the exchange of information.⁴⁰⁷

International Convention for the Suppression of Acts of Nuclear Terrorism

- Parties: 83
- Signatories: 115
- Changes since May 2010: Armenia (22 September 2010 ratification), Australia (16 March 2012 ratification), Bahrain (4 May 2010 accession), Chile (27 September 2010 ratification), China (8 November 2011 ratification), Cote d'Ivoire (12 March 2012 accession), Democratic Republic of the Congo (23 September 2010 accession), Lesotho (22 September 2010 ratification), Malta (26 September 2012 ratification), Nauru (24 August 2010 accession), Netherlands (30 June 2010 acceptance), Nigeria (25 September 2012 accession), St. Lucia (12 November 2012 accession), St. Vincent and the Grenadines (8 July 2010 accession), Tunisia (28 September 2010 accession), Turkey (24 September 2012 ratification)

Since May 2010, the Convention has 16 new parties.⁴⁰⁸ 57 states have signed the Convention but not yet ratified it.⁴⁰⁹

On 28 September 2012, the UN Secretary-General held a high-level meeting on countering nuclear terrorism on the margins of the UN General Assembly. The outcome of the meeting resulted in a Chair's summary.⁴¹⁰

World Customs Organization (WCO)

The Working Group on Border Management established under the United Nations Counter-Terrorism Implementation Task Force held its inaugural session at WCO headquarters from 11 to 12 January 2011. The Working Group will compile a compendium of international instruments, standards, recommended practices, and guidance material, which will be made available to all UN member states in support of their efforts to address terrorist threats at borders.⁴¹¹

403 International Convention for the Suppression of Acts of Nuclear Terrorism", United Nations, 13 April 2005, <http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XVIII/XVIII-15.en.pdf>.

404 Board of Governors General Conference, "Nuclear Security – Measures to Protect Against Nuclear Terrorism", IAEA; 16 August 2006, http://www.iaea.org/About/Policy/GC/GC50/GC50Documents/English/gc50-13_en.pdf.

405 International Convention for the Suppression of Acts of Nuclear Terrorism", United Nations, 13 April 2005, <http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XVIII/XVIII-15.en.pdf>.

406 Ibid.

407 "Report of the Ad Hoc Committee established by General Assembly resolution 51/210 of 17 December 1996, United Nations General Assembly, 4 April 2005, http://www.iaea.org/Publications/Documents/Treaties/unga040405_csant.pdf.

408 International Convention for the Suppression of Acts of Nuclear Terrorism", United Nations, 13 April 2005, <http://treaties.un.org/doc/Publication/MTDSG/Volume%20II/Chapter%20XVIII/XVIII-15.en.pdf>.

409 Ibid.

410 Chair's summary, High-level meeting on countering nuclear terrorism, <http://www.un.org/en/terrorism/ctitf/pdfs/Chairs%20Summary%20-%20High%20Level%20Meeting%20Nuclear%20Terrorism.pdf>.

411 Working Group on Border Management related to Counter-Terrorism holds inaugural meeting, UN, 25 January 2011; http://www.un.org/en/terrorism/ctitf/pdfs/feature_article.pdf.

UN Secretary-General Ban Ki-moon convened a high-level meeting on counter terrorism in New York on 28 September 2012 with a specific focus on strengthening the legal framework. The session was organised by the Counter-Terrorism Implementation Task Force Office and was attended by 130 states discussing possible ways beyond the UNSC resolution 1540 (2004) and the already existing conventions. Apart from strengthening the legal framework to prevent nuclear terrorism, the meeting's objective was to enhance capacity-building efforts to assist states in ensuring the effective implementation of their international obligations.⁴¹²

Proliferation Security Initiative (PSI)

This initiative aims to stop shipments of biological, chemical, and nuclear weapons, as well as missiles and goods that could be used to deliver or produce such weapons, to terrorists and countries suspected of trying to acquire weapons of mass destruction. PSI is an informal arrangement among countries. Since May 2010, PSI has carried out a set of workshops on both regional and bilateral levels and for new members.⁴¹³ By 2012, the PSI has grown to include the endorsement of 102 nations.⁴¹⁴ However, a number of countries have expressed opposition to the initiative. A High Level Meeting of the PSI is planned for May 27-28 in Warsaw.⁴¹⁵

Global Initiative to Combat Nuclear Terrorism

The Global Initiative to Combat Nuclear Terrorism (GICNT) is an international partnership of 85 nations and four official observers who are committed to working individually and collectively to implement a set of shared nuclear security principles. Since May 2010, the GICNT has welcomed new partner countries⁴¹⁶ and has carried out different activities on a regular basis.⁴¹⁷

World Institute for Nuclear Security (WINS)

The Austrian non-governmental organisation has currently 1327 members in 68 countries.⁴¹⁸ It tries to provide a forum for those individuals accountable for nuclear security to promote and share best security practices. To do that it has published best practices guides as well hosted international workshops and launched the WINS Academy.⁴¹⁹

Highly Enriched Uranium (HEU)

There have been efforts both on national and international levels to reduce the use of HEU. The global amount of HEU decreased from about 1600±300 metric tonnes in 2009⁴²⁰ to 1475±125 metric tonnes in 2010, and further down to 1440±125 tonnes in 2011.⁴²¹ However, separating civil and military use of HEU is difficult. A table showing which states are currently in possession of HEU and their estimated HEU stocks was published in our first report.⁴²²

412 Chair's Summary, CTITF, 28 September 2012, <http://www.un.org/en/terrorism/ctitf/pdfs/Chairs%20Summary%20-%20High%20Level%20Meeting%20Nuclear%20Terrorism.pdf>.

413 For more details on these workshops, please see original report, www.reachingcriticalwill.org/images/documents/publications/2010-Action-Plan/NP_Report_RCW.pdf.

414 Proliferation security initiative participants, U.S. Department of State, 27 September 2012, www.state.gov/t/isn/c27732.htm.

415 Ambassador Cezary Lusinski of Poland, Statement to the CD, 22 January 2013.

416 Algeria, Argentina, Azerbaijan, Malaysia, Mexico, the Philippines, Singapore, Thailand and Viet Nam.

417 29 June 2010, plenary meeting of the GICNT in Abu Dhabi, the United Arab Emirates and 30 June 2011, plenary meeting of the GICNT in Daejeon, Republic of Korea. By February 2012, partner nations have completed 53 activities aimed at building capacity to prevent, detect, deter, and respond to acts of nuclear terrorism.

418 As of 10 December 2012.

419 For more information visit www.wins.org.

420 Global Fissile Material Report 2009, Fourth Annual Report of the International Panel on Fissile Materials International Panel on Fissile Materials, 2009.

421 Global Fissile Material Report 2010 and 2011, Annual Reports of the International Panel on Fissile Materials.

422 Numbers are taken from James Martin Center for Non-proliferation Studies (2011); Highly enriched Uranium: Who has what?, Nuclear Threat Initiative, 22 April, 2011 and Gloan-Vilella, R., Marchesano, M., and S. Williams (2011), the 2010 Nuclear Security Summit: Status Update, Arms Control Association and Partnership for Global Security, April 2011. For the DPRK: Global Fissile Material Report 2010, Fifth Annual Report of the International Panel on Fissile Materials, 2010, page 10.

Recent reductions of HEU stockpiles

- Ukraine: At the Seoul 2012 Nuclear Security Summit, Ukraine announced that it has completed the removal of enriched uranium from the country's territory.⁴²³
- Czech Republic, Mexico, and Viet Nam have converted research reactors using HEU fuel to LEU fuel.⁴²⁴
- Serbia: In December 2010, the US announced the removal of 13 kg of Russian-origin HEU spent fuel from the Vinca Institute of Nuclear Sciences in Serbia. The shipment is the culmination of an eight-year effort to remove all HEU from Serbia and makes that nation the sixth country to eliminate all of its HEU since April 2009.⁴²⁵
- Poland: In September 2010, 354.8 kg of uranium and 11.2 kg of plutonium was transferred from Poland to Russia. All HEU will be eliminated from Polish territory and the remaining shipments are planned for 2012, and 2015 or 2016.⁴²⁶
- United States: Since April 2010, the US has down-blended about 10.5 metric tonnes of HEU.⁴²⁷
- China confirmed its MNSR-Shandong reactor, a HEU research reactor, was shutdown in December 2010.⁴²⁸
- Kazakhstan recently eliminated 33 kilograms of HEU at the Institute of Nuclear Physics in Almaty by down-blending the material into low-enriched uranium at the Ulba Metallurgical Plant.⁴²⁹
- Belgium, France, the Netherlands, and the United States have a joint project to convert the production of medical isotope molybdenum-99 from the use of HEU targets to LEU targets.⁴³⁰

Several other national initiatives to promote reductions of HEU are reported in the national progress reports from the 2012 Nuclear Security Summit.⁴³¹

International activities to reduce HEU

An IAEA international working group⁴³² of commercial experts was launched in August 2010, as a result of the "Consultancy on Conversion Planning for Mo-99 Production Facilities from HEU to LEU".⁴³³ Their efforts aim to identify areas of potential multilateral collaboration in support of HEU to LEU conversion at/by the current major producers: NTP, Covidien, AECL/Nordion, and IRE, keeping in mind that processing technology is considered business confidential by all major producers. The group will support the consideration of LEU-based production by future producers such as the facility in Dimitrovgrad, Russia. A technical representative from NIIAR (Russia) participated in the IWG kick-off meeting. Three areas of work were identified during the first meeting.⁴³⁴ The Coordinated Research Project (CRP)⁴³⁵ on Developing Techniques for Small Scale Indigenous Mo-99 Production

423 Statement by Ukraine at the Conference on Disarmament, 27 March 2012.

424 Seoul 2012, Nuclear Security Summit, <http://www.armscontrol.org/factsheets/NuclearSecuritySummit>.

425 , NNSA Announces Removal of All Highly Enriched Uranium (HEU) from Serbia, U.S. Department of Energy 22 December, 2010.

426 Poland's national progress report from the 2012 Nuclear Security Summit.

427 US national progress report from the 2012 Nuclear Security Summit.

428 Factsheet, GTRI: Reducing Nuclear Threats, Global Threat Reduction Initiative (GTRI), 1 February 2011.

429 Cann.M, Davenport.K, Balza.M, The Nuclear Security Summit: Assessment of National Commitments, Arms Control Association, March 2012

430 Seoul 2012, Nuclear Security Summit, Arms Control Association, <http://www.armscontrol.org/factsheets/NuclearSecuritySummit>.

431 Australia, Belgium, Canada, Czech Republic, France, Hungary, Indonesia, Italy, Kazakhstan, Mexico, Netherlands, Nigeria, Norway, Poland, Republic of Korea, Russian Federation, United Kingdom, United States and Viet Nam reported a wide range of activities promoting reductions or conversions of HEU.

432 Bradley, E., Alldred, K., Adelfang, P., Ramamoorthy, N., and D. Ridikas, 2010 IAEA activities to support the transformation of Mo-99 production away from the use of HEU, IAEA, October 2010.

433 Working materials: Consultancy on Conversion Planning for Mo-99 Production Facilities from HEU to LEU, IAEA, 24 - 27 August 2010.

434 High density, LEU target development, licensing support and commercial availability; front end, adaptive processing technology that will permit the use of the new targets with minimal required changes to existing process; and back-end technologies, including the consideration of uranium recovery and recycling.

435 Bradley, E., Alldred, K., Adelfang, P., Ramamoorthy, N., and D. Ridikas, 2010, IAEA activities to support the transformation of Mo-99 production away from the use of HEU, IAEA, 12 October, 2010.

Using Low Enriched Uranium (LEU) was initiated in 2005. Currently, eight agreement holders and six contract holders are either developing local production capabilities or supporting the development work of others.⁴³⁶

Norway and Austria together with the Nuclear Threat Initiative hosted the second International Symposium on the minimisation of HEU on 23–25 January 2012. The meeting was a follow-up to the first symposium in June 2006. It focused on the minimisation of HEU in civilian uses around the world and facilitated a dialogue about different efforts to minimise and eventually eliminate the use of HEU in the civilian sector. Participants reviewed the progress made so far and addressed challenges the possessors of the biggest HEU stocks, the US and Russia are facing in their reduction efforts.⁴³⁷

436 A list of recent developments under the CRP, IAEA can be found in the first NPT Monitoring report by RCW, http://www.reachingcriticalwill.org/images/documents/Publications/2010-Action-Plan/PUNE_Report_RCW.pdf, p. 55.

437 Summary of the 2nd International Symposium on HEU Minimization, Nuclear Threat Initiative, 25 January 2012, <http://www.nti.org/analysis/articles/summary-2nd-international-symposium-minimization-highly-enriched-uranium-heu/>.

NUCLEAR COOPERATION

Among States Parties

- **Action 47:** Respect each country's choices and decisions in the field of peaceful uses of nuclear energy without jeopardizing its policies or international cooperation agreements and arrangements for peaceful uses of nuclear energy and its fuel cycle policies.
- **Action 48:** Undertake to facilitate, and reaffirm the right of States parties to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy.
- **Action 49:** Cooperate with other States parties or international organizations in the further development of nuclear energy for peaceful purposes, with due consideration for the needs of the developing areas of the world.
- **Action 50:** Give preferential treatment to the non-nuclear-weapon States parties to the Treaty, taking the needs of developing countries, in particular, into account.
- **Action 51:** Facilitate transfers of nuclear technology and international cooperation among States parties in conformity with articles I, II, III, and IV of the Treaty, and eliminate in this regard any undue constraints inconsistent with the Treaty.
- **Action 60:** Promote the sharing of best practices in the area of nuclear safety and security, including through dialogue with the nuclear industry and the private sector, as appropriate.

Within the IAEA

- **Action 52:** Continue efforts, within IAEA, to enhance the effectiveness and efficiency of its technical cooperation programme.
- **Action 53:** Strengthen the IAEA technical cooperation programme in assisting developing States parties in the peaceful uses of nuclear energy.
- **Action 54:** Make every effort and to take practical steps to ensure that IAEA resources for technical cooperation activities are sufficient, assured and predictable.
- **Action 55:** Encourage all States in a position to do so to make additional contributions to the initiative designed to raise 100 million dollars over the next five years as extra budgetary contributions to IAEA activities, while welcoming the contributions already pledged by countries and groups of countries in support of IAEA activities.
- **Action 56:** Encourage national, bilateral and international efforts to train the necessary skilled workforce needed to develop peaceful uses of nuclear energy.

The right to nuclear energy

Actions 47 and 48 are subject to interpretation of both the wording of the specific actions as well as relevant provisions of the NPT itself. However, by examining statements at the IAEA General Conference, IAEA press releases, and IAEA reports and documents, this report has sought to find

any potential critiques or concerns about current procedures of cooperation in the “peaceful uses” of nuclear energy. Additionally we reviewed statements delivered during the UNGA General Debate and its First Committee as well as the plenary discussions during the 2012 Preparatory Committee of the NPT. Some states have raised the issue in international fora and called for equal treatment of NPT states parties trying to pursue nuclear energy, but no detailed examples have been given.

By examining nuclear energy cooperation between states parties, the scope of the technical cooperation programme of the IAEA and other relevant cooperation arrangements for nuclear energy (see next section on nuclear cooperation), we have found no concrete signs that indicate that these actions are not implemented.

Since May 2010, a number of new bilateral agreements were signed between states parties to the NPT,⁴³⁸ showing a continued emphasis on nuclear energy cooperation.

Preferential treatment

Under action 50, we looked at the different nuclear deals with non-nuclear weapon states parties to the NPT and nuclear deals with states non-parties to the NPT. The US-India nuclear deal and the resulting NSG exemption for nuclear trade with India were concluded well before the 2010 NPT Action Plan was adopted. However, as this was the first time such a deal was concluded with a state non-party to the NPT, it has set a standard for similar deals.

The agreement has been criticized for the fact that the 45 countries in the NSG have made a decision “on behalf” of the 189 states parties of the NPT. Objections have been raised that the NSG was never given the authority to reinterpret the NPT, overturn NPT decisions, or violate existing international standards. When the NSG waiver was approved in 2008, ten⁴³⁹ additional states joined the US in approving nuclear trade agreements with India. Since the adoption of the 2010 NPT Action Plan, several new deals and cooperation agreements have been concluded between India and other NPT states.⁴⁴⁰

438 A full list of these bilateral agreements are found in the first NPT Action Plan monitoring report; http://www.reachingcriticalwill.org/images/documents/Publications/2010-Action-Plan/PUNE_Report_RCW.pdf, page p. 15.

Additionally the following deals have been made:

- Turkey – Jordan, February 2011: The Associated Press, “Turkey, Jordan sign nuclear cooperation deal”, Haaretz, 17 February 2011, <http://www.haaretz.com/news/world/turkey-jordan-sign-nuclear-cooperation-deal-1.344023>
- Saudi Arabia – South Korea, November 2011: Shamseddine, R. and Mee-young, C., “Saudi Arabia, South Korea in nuclear cooperation deal”, Reuters, 15 November 2011, <http://www.reuters.com/article/2011/11/15/us-saudi-southkorea-idUSTRE7AE0GU20111115>
- Finland – Sweden, October 2011 (joint waste disposal research): “Nordic nuclear deal set in stone”, Tunnels&Tunnelling International, 28 October 2011, <http://www.tunnelonline.info/news/nordic-nuclear-cooperation-deal-set-in-stone/>
- Bangladesh – Russia, November 2011: Rahman, A., “B’desh, Russia to Ink Nuclear Cooperation Deal”, 1 November 2011, Outlook India, <http://news.outlookindia.com/items.aspx?artid=740123>
- France – Great Britain, February 2012: Agence France Presse, “Britain and France sign nuclear power deals at summit”, NDTV, 18 February 2012, <http://www.ndtv.com/article/world/britain-and-france-sign-nuclear-power-deals-at-summit-177421>
- Canada – China, July 2012: News Release, “Canada and China Enhance Nuclear Cooperation”, Ministry for Foreign Affairs and International Trade Canada, 19 July 2012, <http://www.international.gc.ca/media/aff/news-communiqués/2012/07/19a.aspx?lang=eng&view=d>
- UAE – Canada, September 2012: “Canada-U.A.E. nuclear deal touted as example for Iran”, The Canadian Press, 18 September 2012, <http://www.cbc.ca/news/politics/story/2012/09/18/pol-cp-uae-nuclear-agreement.html>
- Saudi Arabia – China 2012: “Saudi Arabia and China signed Nuclear Cooperation Deal”, Asia Defense News, January 2012, <http://www.asian-defence.net/2012/01/saudi-arabia-and-china-signed-nuclear.html>
- Lithuania – Japan/US, June 2012: Adomaitis, N., “Lithuania parliament approves nuclear deal”, Reuters, 21 June 2012, <http://www.reuters.com/article/2012/06/21/lithuania-energy-idUSL5E8HLBX620120621>
- UAE – South Korea, July 2012: Yee, A., “Nuclear vision for UAE and Korea”, The National, 24 July 2012, <http://www.thenational.ae/thenationalconversation/industry-insights/energy/nuclear-vision-for-uae-and-korea>
- UAE – Australia, July 2012: Yee, A., “UAE and Australia to sign major nuclear deal”, The National, 31 July 2012, <http://www.thenational.ae/business/energy/uae-and-australia-to-sign-major-nuclear-deal>
- Saudi Arabia – Argentina October 2012: “Argentina, Saudi Arabia Discuss Nuclear Cooperation”, Bernama, 10 October 2012, <http://www.bernama.com/bernama/v6/newsworld.php?id=700935>.

439 Argentina, Canada, France, Japan, Kazakhstan, Mongolia, Namibia, Republic of Korea, Russia, UK.

440 Nuclear agreements between India and Argentina, Australia, Canada, France, Kazakhstan, Republic of Korea, Russia, Tanzania, UK, US have been reported.

Ahead of the NSG annual plenary meeting of June 2011 in Noordwijk, The Netherlands, the United States circulated a “food for thought” paper⁴⁴¹ as a follow-up to President Obama’s announcement on 8 November 2010 of his support for Indian membership of the NSG.⁴⁴² On 23 and 24 June 2011, the NSG adopted new guidelines that can be interpreted as affecting the exemption of India granted in 2008.⁴⁴³ For more information on this, see chapter on Universalization of the NPT.

At a meeting in Seattle in June 2012, the NSG discussed once more issue of the 2008 waiver in favour of India as well as—in general terms—the question of a possible NSG membership for India on the basis of a revised US “food for thought” paper and a paper from the French government. It has been reported that the NSG agrees that India has become a major player in the nuclear field, and a majority of NSG states have indicated that India now has to formalize its desire for membership. With regard to the next steps, the NSG Troika (Germany, Hungary and South Africa) will work with India on a “terms of reference” document.

At its 29th Consultative Group (CG) held in Vienna on 6–7 November 2012, different NSG states informed the group about nuclear agreements with India.⁴⁴⁴ A decision was taken to convene an open-ended discussion on Indian membership of the NSG in connection to the 30th CG meeting that will take place during spring 2013.

In addition to this, in June 2010, China planned to provide Pakistan with two new nuclear reactors. In March 2011, China announced it was to sell further nuclear reactors to Pakistan.⁴⁴⁵

Facilitating transfer

Action 51 is subject to interpretation of both the wording of the specific actions as well as relevant provisions of the NPT itself. Examining this action would require a more comprehensive examination of the right to “peaceful uses” of nuclear energy, the right of states to apply export restrictions on technologies to prevent proliferation, and how these actions and commitments are interpreted in light of the context and purpose of the NPT itself. Such an examination is beyond the scope of this report. However, nuclear energy cooperation agreements have increased in numbers and more countries are developing nuclear energy infrastructure.⁴⁴⁶ During the plenary debate of the 2012 NPT Preparatory Committee the Non-Aligned Movement (NAM) expressed “its deep concern on the continued imposition and/or maintaining of limitations and restrictions on exports to developing countries of nuclear material” and transfer of nuclear technology and international cooperation should be supported and pursued “in good faith and without discrimination”.⁴⁴⁷ It is therefore possible to say that transfers of nuclear technology and international cooperation among states parties is increasing, which signals that this action is currently being implemented.

441 Nuclear Suppliers Group Annual Plenary meeting, Arms Control Association official website, 20 May 2011.

442 Kimball, D. G., “Indian Membership in the NSG? A Bad Idea Whose Time Has Not Come”, Arms Control Now, 23 June, 2011.

443 The current member states of the NSG are Argentina, Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Republic of Korea, Latvia, Lithuania, Luxembourg, Malta, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States.

444 Argentina reported that its nuclear cooperation bilateral agreement with India had received national legislative approval and transfers to India were due to commence soon.

Australia reported on the commencement of its negotiations on civil nuclear cooperation with India for the export of uranium, only for civil purposes and subject to IAEA safeguards.

Canada reported on its civil nuclear cooperation agreement with India, noting the recent conclusion of administrative arrangements for its nuclear cooperation agreement with India, which had been signed with India in June 2012.

Also US-based Westinghouse Electric Co. had announced the signing of a preliminary deal with the state-run Nuclear Power Co. of India to build the first US nuclear reactors. US Secretary of State Clinton called it a “significant step toward the fulfilment” of the 2008 agreement.

445 Ho, S., “China to Sell Outdated Nuclear Reactors to Pakistan”, VOAnews, 24 March 2011.

446 See list of nuclear cooperation deals and IAEA Technical Cooperation programmes.

447 Statement by the Delegation of Egypt on Behalf of the Group of Member States of the Non-Aligned Movement Parties to the Treaty on the Non-Proliferation of Nuclear Weapons at 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, 9 May 2012, http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom12/statements/9May_NAM.pdf.

Sharing of best practices

There has been some effort to promote the sharing of best practices such as:

- **IAEA Technical Cooperation Programmes INT/0/085:** Sharing best practices for the design and management of technical cooperation projects.⁴⁴⁸
- **IAEA Communication Tool InTouch:** Interactive communication platform to enhance communication between actors. It allows registered users to complete and maintain their professional profile online, and to apply for a fellowship, scientific visit, training course or meeting, or for expert/lecturer assignments.⁴⁴⁹
- **G8 Summit:** The Nuclear Safety and Security Group (NSSG) of the G8 submitted its report in May 2011. The NSSG shared best practices and lessons learned in implementing the International Initiative on 3S-Based Nuclear Energy Infrastructure and identified several key findings on safety, security, and safeguards.⁴⁵⁰
- **Nuclear Security Summit:** In the communiqué of the 2012 Nuclear Security Summit in Seoul participating states commit themselves to work closely with the IAEA to encourage cooperation and to share best practices on the management of radioactive sources as well as provide technical assistance to states upon request.⁴⁵¹

Cooperation within the IAEA

IAEA Technical Cooperation programme

In order to evaluate implementation of “enhancing the effectiveness” and “strengthening” the technical cooperation (TC) programme, we have looked at newly established programmes within the IAEA. In this respect, a significant number of new cooperation programmes and training courses have been initiated and implemented since May 2010.⁴⁵² The IAEA has published a medium-term strategy from 2012–2017, which addresses some of the issues dealt with in the action plan such as facilitating access to nuclear power and providing effective technical cooperation.⁴⁵³

As of 17 February 2011, InTouch, an interactive online communication platform for the IAEA technical cooperation community, is operational. At this stage, InTouch allows registered users to complete and maintain their professional profile online, and to apply for a fellowship, scientific visit, training course or meeting, or for expert/lecturer assignments.⁴⁵⁴

IAEA funding

In order to examine the resources of the technical cooperation programme, this report aimed to compare the target figure set by the IAEA BoG with the pledged amounts by governments and the rate of attainment of those pledged amounts. However, the IAEA does not release pledged amounts or rate of attainment of individual states—only total numbers—with regard to their contributions to the Agency’s Technical Cooperation Fund (TCF). It is therefore impossible to make an accurate examination of how individual states parties have acted to ensure that IAEA resources

448 IAEA INT/0/085.

449 <http://intouch.iaea.org>.

450 Report of the Nuclear Safety and Security Group (NSSG), G8 Summit, 27-28 May, 2011.

451 Seoul Communiqué, 2012 Seoul Nuclear Security Summit, http://www.thenuclearsecuritysummit.org/userfiles/Seoul%20Communique_FINAL.pdf.

452 A full list of all IAEA Technical Cooperation Programmes initiated in 2010 and 2011 can be found in our previous NPT Monitoring Report; http://www.reachingcriticalwill.org/images/documents/Publications/2010-Action-Plan/PUNE_Report_RCW.pdf, p. 13. 1 look at the Technical Cooperation Report for more TC activities in 2011 and 2012 as well as the information lists about the numerous active projects on the websites of the regional organisations of the IAEA.

453 Medium-Term Strategy, IAEA, http://www.iaea.org/About/mts2012_2017.pdf.

454 <http://intouch.iaea.org>.

for technical cooperation activities are sufficient, assured, and predictable. It is only possible to make an estimated guess based on the target figure set by the IAEA BoG and the likelihood of states meeting this target.⁴⁵⁵

The TCF is currently being financed through voluntary contributions of member states. During the plenary discussion of the IAEA General Conference in September 2010 and 2011, member states such as Switzerland,⁴⁵⁶ Liechtenstein,⁴⁵⁷ and the Netherlands⁴⁵⁸ suggested the IAEA should apply established UN standards, since technical cooperation is its primary and fundamental task and therefore should be funded under the regular budget.⁴⁵⁹ Several developing countries underlined the importance of the technical cooperation programme for developing countries and stressed that it should not be politicized in any way.⁴⁶⁰ In its annual resolution on "Strengthening of the Agency's technical cooperation activities,"⁴⁶¹ the 2010, 2011, and 2012 IAEA General Conferences stressed the need to work on achieving the goal of sufficient, assured, and predictable resources for the TCF.⁴⁶² The working group will comprehensively review the nature of the technical cooperation resources and discuss ways of making the TCF sufficient, assured and predictable. It will also address the relationship between the levels of the overall budget and the TCF.⁴⁶³ In 2011 the BoG has decided that such a working group on the regular budget and the TCF target will be established in 2013.⁴⁶⁴

The Peaceful Uses Initiative

At the 2010 NPT RevCon, the US announced that it would supplement support for "peaceful uses" of nuclear energy with \$50 million in additional funding over the next five years as part of President Obama's Peaceful Uses Initiative (PUI). Through the PUI, the US has already supported numerous IAEA projects related to human health, food security, water resource management, and nuclear power infrastructure development.⁴⁶⁵ In a message of President Obama to the 2012 IAEA General Conference, the US delegation announced that so far more than \$21 million have been provided by contributing states to different projects.⁴⁶⁶ Several other IAEA member states have also announced that they would contribute with funds.⁴⁶⁷

455 In June 2010, the BoG recommended the target figure of \$86 million for contributions to the Agency's TCF for 2011. This is an increase of \$1 million from the previous year. According to the Technical Cooperation Report for 2011 the pledged amount of the TCF reached 89.3% of the target and the rate of attainment was at 86% by 31 December 2011.

In June 2011, the BoG recommended the target figure of \$88.75 million for contributions to the Agency's TCF for 2012. This is an increase of \$2.75 million from the previous year. The final report by the IAEA on the pledges against the 2012 TCF will not be released until September 2013.

The recommended target figure for voluntary contributions to the Agency's TCF for the year 2013 by the BoG is \$88.75 million. The final report by the IAEA on the pledges against the 2013 TCF will not be released until September 2014.

456 IAEA GC(54)/OR.3, IAEA, December 2010.

457 Ibid.

458 IAEA GC(54)/OR.5, IAEA, December 2010.

459 IAEA GC(54)/OR.3, IAEA, December 2010.

460 IAEA GC(54)/Or.2, IAEA, January 2011.

461 IAEA GC(54)/RES/9, IAEA, September 2010.

462 Again during the IAEA General Conference in September 2011 and September 2012 a resolution "Strengthening of the Agency's technical cooperation activities" was adopted more or less repeating the calls of the previous resolution. Compare IAEA GC(55)/RES/11 and IAEA GC(56)/RES/11.

463 IAEA GC(54)/2, IAEA, August 2011, p. 19.

464 IAEA GOV/2011/37.

465 The IAEA Peaceful Uses Initiative and the NPT, U.S. Department of State - Bureau of Public Affairs, 21 March 2012.

466 U.S. statement, 2012 IAEA General Conference, 17 September 2012, <http://www.iaea.org/About/Policy/GC/GC56/Statements/usa.pdf>.

467 Japan, Hungary, the Czech Republic, Indonesia, Kazakhstan, New Zealand, the Republic of Korea and Sweden.

NUCLEAR SAFETY

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Action 57: Ensure that, when developing nuclear energy, including nuclear power, the use of nuclear energy must be accompanied by commitments to and ongoing implementation of safeguards as well as appropriate and effective levels of safety and security, consistent with States' national legislation and respective international obligations.
- 
Action 59: Consider becoming party, if they have not yet done so, to the Convention on Nuclear Safety, the Convention on Early Notification of a Nuclear Accident, the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management, the International Convention for the Suppression of Acts of Nuclear Terrorism, the Convention on the Physical Protection of Nuclear Material, and to ratify its amendment so that it may enter into force at an early date.
- 
Action 62: Transport radioactive materials consistent with relevant international standards of safety, security and environmental protection, and to continue communication between shipping and coastal States for the purpose of confidence-building and addressing concerns regarding transport safety, security and emergency preparedness.
- 
Action 63: Put in force a civil nuclear liability regime by becoming party to relevant international instruments or adopting suitable national legislation, based upon the principles established by the main pertinent international instruments.
- 
Action 64: The Conference calls upon all States to abide by the decision adopted by consensus at the IAEA General Conference on 18 September 2009 on prohibition of armed attack or threat of attack against nuclear installations, during operation or under construction.

Safety Problems

The accident at Japan's Fukushima Dai-ichi Nuclear Power Station in March 2011 has raised concerns over the safety of nuclear energy facilities. Though Japan has an advanced nuclear energy industry, this accident highlighted many dysfunctions in the management of the Japanese nuclear programme as demonstrated by information released by the Japanese government itself or by the IAEA. Aside from structural issues such as the design of construction or the cooling systems, the lack of independence of the Japanese Nuclear Safety Commission also posed problems in dealing with the aftermath of the tsunami and earthquake.

Following the accident, the Japanese government suggested actions to be taken to address these safety problems. The suggested actions vary from reassessing the danger posed by earthquakes and tsunamis, redesigning safety structures, and securing the power supply and alternative cooling systems in case of an accident, to the enhancement of training responding to severe accidents. It also suggested that the Japanese Nuclear Safety Commission should separate from Ministry of Economy,

Trade and Industry.⁴⁶⁸ On 15–17 December 2012, the Japanese Government held a Ministerial Conference on Nuclear Safety in the Fukushima prefecture, in co-sponsorship with the IAEA. The Conference issued a report on lessons learned from the Fukushima accident.⁴⁶⁹

Aside from the Fukushima accident, nuclear safety problems in other countries have been reported, in particular in Canada, France, United States, and United Kingdom.⁴⁷⁰

Incident reporting IAEA - Nuclear Events Web-based System (NEWS)

As part of the IAEA incident-reporting mechanisms the NEWS-database offers a list of events reported by participating countries. The database provides a short summary of the event together with the corresponding International Nuclear and Radiological Event Scale (INES) rating, which rates nuclear and radiological events according to their safety significance and has designated National Officers for reporting and contact purpose. Since May 2010 over 60 reports have been added to the system.⁴⁷¹ However reporting differs from country to country and consistency of INES ratings at the lower level is not given.⁴⁷²

EU stress test

As a reaction to the accident at Fukushima, the EU has decided to review the safety of all EU nuclear plants on the basis of “comprehensive and transparent risk and safety assessments”.⁴⁷³ The Western European Nuclear Regulators’ Association of the European Nuclear Safety Regulators Group (ENREG) put forward a proposal on 23 March 2011 for stress tests on European nuclear power plants⁴⁷⁴ and on 1 June 2011 operators started reviewing their facilities.⁴⁷⁵

On 4 October 2012 the European Commission released the results of the stress test report.⁴⁷⁶ The safety of 132 reactors on 58 sites currently active in Europe was reviewed. The report showed a significant list of deficiencies.⁴⁷⁷

As a response to the European stress tests Greenpeace commissioned a “Critical Review of the EU Stress Test performed on Nuclear Power Plants”. The review discusses important shortcomings of the EU stress tests based on national reports and peer reviews making an important contribution to a more complete understanding of nuclear power plant safety.

468 Ibid.

469 The Fukushima Ministerial Conference on Nuclear Safety, <http://www-pub.iaea.org/iaea meetings/20120216/The-Fukushima-Ministerial-Conference-on-Nuclear-Safety>.

470 Canada: in March 2011, a leak was discovered at the Pickering Nuclear Generating Station. Demineralised water reached Lake Ontario and even though officials said it caused no risk to the population critics express concerns about the potential nuclear contamination of Lake Ontario in case of a severe accident. The leak has been stopped and the faulty pump replaced.
France: On 12 September an explosion at the nuclear waste plant in Marcoule, France, killed one person and injured four. The cause for the blast was not immediately clear, but no radioactivity has leaked outside the site. Later it was discovered that a furnace used to melting low-level and very low-level metallic radioactive waste had exploded and triggered a fire.
US: the Union of Concerned Scientists (UCS) published a report in March 2011 on the U.S. Nuclear Regulatory Commission (NRC) and nuclear power plant safety in 2010. They report of fourteen so-called near-misses, where security problems, equipment failure, poor maintenance of equipment and poor training of personnel led to incidents that could have had severe consequences. The UCS called for more thorough inspections by the NRC and more responsible approach of the owners of the nuclear plants when dealing with security issues.

UK: the Office of Nuclear Regulation publishes quarterly statements of nuclear in nuclear incidents at nuclear installations and quarterly site reports. It reported of twelve incidents at nuclear installations in Britain in the period from 2010 – 2012. Incidents include unplanned shutdowns, leaks and defective pumps of the cooling system.

471 The list of reported events since May 2010 can be accessed under: <http://www-news.iaea.org/EventList.aspx?pno=0&sc=EventDate&ps=100>.

472 IAEA Issue Brief: Reporting Nuclear and Radiological Events: the NEWS Communication Channel, IAEA, August 2008, <http://www-ns.iaea.org/downloads/iec/issuebriefs-ines-news.pdf>.

473 WENRA proposal – ‘Stress tests’ specifications, European Nuclear Safety Regulators Group, <http://www.ensreg.org/node/281>.

474 First Proposal about European ‘stress tests’ on nuclear power plants, Western European Nuclear Regulators’ Association, 23 March, 2011.

475 Statement about the EU Stress Tests by Mr. Andrej Stritar, ENSREG, 25 May, 2011.

476 COM(2012) 571 final, http://ec.europa.eu/energy/nuclear/safety/doc/com_2012_0571_en.pdf.

477 IP/12/1051, http://europa.eu/rapid/press-release_IP-12-1051_en.htm.

Statements, resolutions, and conferences

On 26–27 May 2011, the G8 met in Deauville, France, and agreed on a declaration on “Renewed commitment for freedom and democracy”. In this declaration, the G8 and the EU adopted a whole chapter on nuclear safety, emphasizing that nuclear safety should be addressed as a top priority on the G8 agenda.

On 7 June 2011, the G20 adopted different measures on strengthening nuclear safety. Those measures were the discussed at the IAEA Ministerial Conference on Nuclear Safety that took place on 20–24 June 2011 in Vienna. The elements of the final declaration of the Conference were turned into an Action Plan on Nuclear Safety negotiated by the IAEA member states during the summer 2011. The Action Plan was finally adopted by the IAEA BoG and endorsed by the IAEA General Conference in September 2011.⁴⁷⁸

However, in the Chair’s conclusions on the item related to this issue, it is mentioned that some members expressed the need to address the current global nuclear safety regime through a more ambitious, stringent, and binding action plan. It was also noted by some member states that the action plan should be further developed, reviewed, and updated in the light of the progress made and the concrete results achieved by its implementation.

On 22 September 2011, UN Secretary General Ban Ki-moon organized a high-level meeting (HLM) on Nuclear Safety and Security in New York. However, the meeting did not result in a fruitful debate.⁴⁷⁹

From 27–31 August 2012 states party to the Convention on Nuclear Safety met in Vienna for discussions of long-term safety issues. The second extraordinary meeting was called in light of the Fukushima accident in March 2011 to discuss lessons learned so far as well as review the effectiveness of the provisions of the Convention.⁴⁸⁰ The Conference ended by deciding to set up a working group with the task of making proposals to strengthen the CNS.

From 15–17 December 2012 an International Ministerial Conference on Nuclear Safety was held in Fukushima to discuss lessons learned from the Fukushima Dai-ichi accident.⁴⁸¹ Participants took part in three working sessions dealing with the progress of international efforts aimed at strengthening nuclear safety, including through the implementation of the IAEA action plan of June 2011, as well as of measures to protect people and the environment from ionizing radiation.⁴⁸² States were encouraged to utilise the existing IAEA safety standards since the implementation of these instruments and thus prevention of further accidents are the most effective way to strengthen nuclear safety. Additionally the need for communication to the public and coordination among involved organisations after a nuclear or radiological emergency was highlighted.⁴⁸³

478 The Action Plan consists of 12 actions that aim to strengthen the global nuclear safety framework:

- Undertake safety assessments;
- Strengthen IAEA peer reviews;
- Strengthen emergency preparedness and response;
- Strengthen national regulatory bodies;
- Strengthen operating organizations;
- Review and improve IAEA safety standards;
- Improve the international legal framework;
- Facilitate infrastructure for new nuclear programmes in member states;
- Strengthen and maintain capacity building;
- Ensure protection from ionizing radiation;
- Enhance transparency and effectiveness of communication; and
- Effectively utilize research and development.

479 See statements and documents from and a report on the HLM at <http://www.reachingcriticalwill.org/disarmament-fora/others/high-level-meeting-on-nuclear-safety-and-security>; also see the 2012 NPT Action Plan Monitoring Report.

480 CNS/ExM/2012/04/Rev.2, 31 August 2012, <http://www.iaea.org/Publications/Documents/Conventions/cns-summaryreport310812.pdf>.

481 The Fukushima Ministerial Conference on Nuclear Safety, IAEA, <http://www-pub.iaea.org/iaea-meetings/20120216/-The-Fukushima-Ministerial-Conference-on-Nuclear-Safety>.

482 The Fukushima Ministerial Conference on Nuclear Safety “Chairperson Summaries”, IAEA, December 2012.

483 Ibid.

Adherence to nuclear safety conventions

While the commitment in action 59 is relatively weak and only obliges states parties to “consider” becoming a party, this report examines how many states parties to the NPT are not yet party to these treaties and how this has changed since the adoption of the 2010 NPT Action Plan. Since the Fukushima disaster, this action is considered in a new light. Despite its voluntary nature, nuclear safety and security is becoming increasingly important and more attention to these conventions and instruments is essential.

Convention on Nuclear Safety:

All countries with operating nuclear power plants are now parties to the Convention. 11 signatory countries have not yet ratified the convention

- Parties: 75
- Signatures: 65
- Changes since May 2010: Albania (27 September 2011 entry into force), Bahrain (09 February 2011 entry into force), Bosnia and Herzegovina (16 September 2010 entry into force), Cambodia (4 July 2012 entry into force), Ghana (30 August 2011 entry into force), Kazakhstan (08 June 2010 entry into force), Saudi Arabia (16 June 2010 entry into force), Tunisia (20 July 2010 entry into force), Vietnam (15 July 2010 entry into force)

Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency:

- Parties: 108
- Signatories: 68
- Changes since May 2010: Botswana (11 December 2011 entry into force), Mauritania (19 October 2011 entry into force), Tajikistan (23 October 2011 entry into force)

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management:

- Parties: 64
- Signatories: 42
- Changes since May 2010: Albania (27 September 2011 entry into force), Bosnia and Herzegovina (31 October 2012 entry into force), Chile (25 December 2011 entry into force), Gabon (28 July 2010 entry into force), Ghana (30 August 2011 entry into force), Indonesia (30 June 2011 entry into force), Kazakhstan (08 July 2010 entry into force), Mauritania (18 December 2011 entry into force), Montenegro (07 November 2010 entry into force), Republic of Moldova (24 May 2010 entry into force), Saudi Arabia (18 December 2011 entry into force)

Convention on Early Notification of a Nuclear Accident:

- Parties: 115
- Signatories: 69
- Changes since May 2010: Bahrain (4 June 2011 entry into force), Botswana (11 December 2011 entry into force), Cambodia (5 May 2012 entry into force), Dominican Republic (29 May 2011 entry into force), Georgia (05 November 2010 entry into force), Mauritania (19 October 2011 entry into force), Paraguay (8 March entry into force), Tajikistan (1 October 2011 entry into force)

Transportation of radioactive materials

Most transports of radioactive materials occur between the different stages of the nuclear fuel cycle. Usually materials will be transported in solid form and under the existing regulations. The objective of these regulations is the protection of “people and environment from the effects of radiation during the transport of radioactive material.”⁴⁸⁴

The IAEA General Conference adopts annually a resolution on “Measures to Strengthen International Cooperation in Nuclear, Radiation, Transport and Waste Safety”. The part of the resolution that focuses on transport of nuclear material, as in previous years, urges states that do not have national regulatory documents governing the transport of radioactive material to adopt and implement such documents expeditiously, and urges all member states to ensure that such regulatory documents are in conformity with the current edition of the IAEA’s transport regulations.⁴⁸⁵ As usual, the 2010, 2011, and 2012 IAEA General Conferences adopted the resolution on “Measures to strengthen international cooperation in nuclear, radiation, transport and waste safety”.

A Transport Safety Conference was held on 17–21 October 2011 in Vienna to encourage application of appropriate levels of safety and security during transport. The IAEA Transport Safety Standards Committee continues to meet twice a year and various trainings meetings regarding transport safety took place in 2011 and 2012.⁴⁸⁶

During the UN General Assembly General Debate in October 2010, the Caribbean Community (CARICOM) expressed concerns about the continuing “transshipment of nuclear and toxic waste through the Caribbean Sea.” It reiterated “strenuous and forceful rejection of the continued use of the Caribbean Sea for the shipment or transshipment of nuclear waste” and called for “a full cessation of this activity in the Caribbean.”⁴⁸⁷ CARICOM continues to call for states engaged in the transportation of these hazardous materials should enact the necessary domestic legislation to give effect to the provisions of the IAEA Transport Regulations. CARICOM also reiterated its calls for ongoing dialogue between shipping states and states in the Caribbean region prior to the transshipment of radioactive materials.⁴⁸⁸ In 2011 CARICOM joined by Jamaica repeated their concerns⁴⁸⁹ and again during the First Committee 2012.⁴⁹⁰

Nuclear Liability

Since 2010, only a few states reported amendments of their nuclear liability legislation.⁴⁹¹

484 Existing international standards for the transport of radioactive materials:

- International Maritime Dangerous Goods Code (IMDG Code).
- IAEA Nuclear Security Recommendations on Physical Protection of Nuclear Materials and Nuclear Facilities INFCIRC 225.
- Chapter on “Requirements for Measures Against Unauthorized Removal and Sabotage of Nuclear Material during Transport”.
- The Safety of Life at Sea (SOLAS) Convention.
- International Ship and Port Facility Security Code (ISPS Code).
- IAEA Safety Standards: Regulations for the Safe Transport of Radioactive Material.

485 Measures to strengthen international cooperation in nuclear, radiation, transport and waste safety (GC(54)/RES/7), September 2011 http://www.iaea.org/About/Policy/GC/GC54/GC54Resolutions/English/gc54res-7_en.pdf.

486 Meetings, conferences and symposia, IAEA, <http://www-ns.iaea.org/meetings/default.asp?tme=rit&yr=2011&s=10&l=79&submit.x=11&submit.y=17>.

487 Statement by CARICOM, October 2010, http://www.reachingcriticalwill.org/political/1com/1com10/statements/4Oct_CARICOM.pdf.

488 Statement by CARICOM, May 2010, <http://www.un.int/jamaica/NPTReviewConf2010.htm>.

489 Acheson, R., “Nuclear energy and the fuel cycle”, First Committee Monitor, Reaching Critical Will, 2 November 2011.

490 Statement by CARICOM, October 2012, http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com12/statements/8Oct_CARICOM.pdf.

491 Canada Nuclear Liability Act: R.S.C., 1985, c. N-28, An Act respecting civil liability for nuclear damage, 19 September 2012, Finland: Nuclear Liability Act (484/1972), entered into force on 1 January 2012 and gives unrestricted liability for nuclear damage occurring in Finland, Germany: Atomic Energy Act: Act on the peaceful utilisation of nuclear energy and the protection against its hazards (Atomic Energy Act) of 23 December 1959, as amended and promulgated on 15 July 1985, last amendment of 24 February 2012 (nuclear phase out), Slovenia: Act on Liability for nuclear Damage, Treaty No. 77/2010, Sweden: The act on liability and compensation passed by the Swedish parliament in June 2011 gives full liability to the operator of a nuclear facility. It entered into force in January 2011.

During the IAEA General Conference in September 2010, Austria expressed interest in the creation of a global nuclear liability regime, though the conventions under discussion offered less protection for possible victims than the Austrian regulations in place and “the maximum liability amounts laid down in the Paris and Vienna Conventions were inadequate and that the principle of channelling liability claims was unsatisfactory.”⁴⁹² France called upon all states to recognize the importance of universalizing a civil nuclear liability regime.⁴⁹³ The European Union (EU) explained it was examining the various legal regimes in the area of nuclear liability within the EU and possible improvements at the European level.⁴⁹⁴

While national legislation for civil nuclear liability regimes for 189 states parties to the NPT is difficult to access and examine within the scope of this report, we have chosen to look at the main international instruments for civil nuclear liability. With regards to such international civil liability regimes, moderate progress has been achieved.

Adherence to the nuclear liability regimes (changes since May 2010):

- 1960 Paris Convention, 1964 Additional Protocol, 1982 Protocol and 2004 Protocol: Norway (signed 2004 protocol: 26 November 2010).
- Vienna Convention on Civil Liability for Nuclear Damage: Kazakhstan (entry into force: 29 June 2011), Saudi Arabia (entry into force: 17 June 2011).
- Protocol to amend the Vienna Convention on Civil Liability for Nuclear Damage: Kazakhstan (entry into force: 29 June 2011), Montenegro (entry into force: 4 June 2011), Poland (entry into force: 21 December 2010), Saudi Arabia (entry into force: 17 June 2011), United Arab Emirates (entry into force: 29 August 2012).
- Convention on Supplementary Compensation for Nuclear Damage: India (signature: 27 October 2010), Senegal (signature: 20 September 2011).
- 1963 Brussels Supplementary Convention, 1964 Additional Protocol, 1982 Protocol and 2004 Protocol: no progress since May 2010.
- Joint Protocol Relation to the Application of the Vienna Convention and the Paris Convention: United Arab Emirates (entry into force: 29 November 2012).

Attack against nuclear installations

The 2011 IAEA General Conference considered agenda item 24 tabled by Iran and entitled “Prohibition of armed attack or threat of attack against nuclear installations, during operation or under construction”. The General Conference noted GC(XXIX)/RES/444 and GC(XXXIV)/RES/533, which noted that “any armed attack on and threat against nuclear facilities devoted to peaceful purposes constitutes a violation of the principles of the United Nations Charter, international law and the Statute of the Agency,” and a thorough discussion was made on all aspects of the issue. Member states recognized the importance attached to safety, security, and physical protection of nuclear material and nuclear facilities and, in that regard, expressed their views on the importance they attached to the protection of nuclear installations. They also noted the need to have the Agency involved in early notification and assistance in cases of radioactive release from nuclear installations.

Israel and the US have repeatedly suggested that with regard to keeping Iran from acquiring a nuclear weapon every option available, including the military option, remained possible. Since Israel is not a party to the NPT, the 2010 NPT Action Plan does not impose any obligations on it. However, any such military action would be in violation of international law more generally and especially in violation of the UNSC resolution A/RES/36/27 adopted on 13 November 1981, following the Israeli aggression against the Iraqi nuclear installations.

492 IAEA GC(54)/OR.3, December, 2010, page 2, http://www.iaea.org/About/Policy/GC/GC54/GC54Records/English/gc54or-3_en.pdf.

493 IAEA GC(54)/OR.3, December, 2010, http://www.iaea.org/About/Policy/GC/GC54/GC54Records/English/gc54or-3_en.pdf.

494 IAEA GC(54)/OR.5, December, 2010, http://www.iaea.org/About/Policy/GC/GC54/GC54Records/English/gc54or-5_en.pdf.

NUCLEAR FUEL CYCLE



Action 58: Continue to discuss further, in a non-discriminatory and transparent manner under the auspices of IAEA or regional forums, the development of multilateral approaches to the nuclear fuel cycle, including the possibilities of creating mechanisms for assurance of nuclear fuel supply, as well as possible schemes dealing with the back-end of the fuel cycle without affecting rights under the Treaty and without prejudice to national fuel cycle policies, while tackling the technical, legal and economic complexities surrounding these issues, including, in this regard, the requirement of IAEA full scope safeguards.

Low Enrichment Uranium Bank

In 2006, the Nuclear Threat Initiative (NTI), a private US organization, pledged \$50 million for such an IAEA LEU bank to secure LEU supplies on the condition that IAEA member states donate another \$100 million and that the IAEA BoG approve the plan. Pledges from the US, the EU, Kuwait, the UAE, and Norway have been contributing to meet the \$100 million goal.⁴⁹⁵ So far, Kazakhstan is the only country that has declared an interest in hosting the bank. The IAEA and the government of Kazakhstan are discussing the necessary technical matters.⁴⁹⁶

On 27 November 2009, the IAEA BoG approved the initiative of the Russian Federation to establish a reserve of LEU for the supply of LEU to the IAEA for its member states. The fuel bank's operator, Rosatom, announced on 1 December 2010 that the fuel bank stores 120 tonnes of low-enriched uranium.⁴⁹⁷ As of 3 February 2011 the LEU reserve in Angarsk is available to all IAEA member states.⁴⁹⁸ The Ukraine and Armenia have purchased 10% in shares each of the International Uranium Enrichment Centre that hosts the LEU reserve.⁴⁹⁹

On 3 December 2010, the IAEA BoG agreed to establish a nuclear fuel bank, endorsing a long discussed proposal without a dissenting vote from any of the 35 members.⁵⁰⁰ This new plan will set up a reserve of low-enriched uranium (LEU) under IAEA control. The tally marked a shift from the vote a year earlier on another fuel bank proposal, authorizing Russia to set up a fuel reserve at the Angarsk site in Siberia.⁵⁰¹

Nuclear Fuel Assurance

The United Kingdom put forward a proposal during the IAEA BoG meeting in March 2011 aiming to assure the availability of nuclear fuel. It includes that a supplier state promise "not to interrupt the supply of enrichment services (to a recipient state) for non-commercial reasons."⁵⁰² Unlike the IAEA LEU reserve in Angarsk or the planned LEU bank in Kazakhstan, this proposal does not include the stockpiling of fuel. Instead supplier and recipient come to a contractual agreement guaranteeing an uninterrupted supply. The IAEA BoG adopted the proposal on 10 March 2011.⁵⁰³

495 Donor pledges: European Union: up to €25 million, Kuwait: US\$10 million, Norway: US\$5 million - paid in full, United Arab Emirates: US\$10 million, United States: US\$49 540 000 - paid in full, Nuclear Threat Initiative: US\$50 million.

496 D. Horner, "IAEA Board Approves Fuel Bank Plan", Arms Control Today, January 2011.

497 Factsheet: IAEA Low Enriched Uranium Reserve, IAEA, http://www.iaea.org/Publications/Factsheets/English/iaea_leureserve.html.

498 Factsheet: IUEC and the LEU Guaranteed Reserve, IAEA, <http://www.iaea.org/OurWork/ST/NE/NEFW/Assurance-of-Supply/iuec.html>.

499 <http://eng.iuec.ru/about/dates/>.

500 During voting, 28 countries supported the plan and 6 abstained. Pakistan was absent.

501 During voting, 8 countries voted against the plan and 3 abstained.

502 "UN atomic watchdog approves nuclear fuel assurances proposal", Nuclear Power Daily, 10 March 2010.

503 Board of Governors Closes March Deliberations, IAEA, 10 March 2011.



Reaching Critical Will

THE 2010

NPT ACTION PLAN

MONITORING REPORT

Reaching Critical Will is the disarmament programme of the Women's International League for Peace and Freedom (WILPF). Reaching Critical Will was created in 1999 in order to promote and facilitate engagement of non-governmental actors in UN processes related to disarmament. RCW was designed to increase the quality and quantity of civil society preparation and participation in UN disarmament processes and of NGO interaction with governments and the United Nations. We work to affect perceptions and policies on issues related to nuclear weapons, military spending, and the arms trade. We engage with governments at the United Nations, promoting transparency, accountability, and dialogue; and with grassroots activities and the general public, bringing their concerns to the UN.

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