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OPCW Confirms Chlorine Attacks in Syria
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Australia, India Sign Uranium Deal
Nearly seventy years after the world’s first atomic explosion, stocks of weapon-usable material sufficient for more than 100,000 nuclear warheads continue to pose one of the gravest threats to our very survival. This book by some of the world’s leading experts provides sober technical and policy assessments that should be required reading for all of us yearning for a world free from nuclear weapons. Elimination of these nuclear materials is not only key but also possible. This valuable and timely book shows us how.


This is a comprehensive text on fissile material, with a much-needed historical perspective and a detailed analysis of the present situation. It is invaluable for all those who teach a university course in nuclear weapons, nuclear disarmament, and nonproliferation and for those who are thinking of ways to eliminate nuclear weapons altogether.

—Paolo Cotta-Ramusino, Secretary General of the Pugwash Conferences on Science and World Affairs

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By Daryl G. Kimball
Executive Director

A Global Nuclear Weapons Freeze

In the seven decades since the attacks on Hiroshima and Nagasaki, nuclear weapons have become less and less relevant to the security of possessor states and their allies and more harmful to international security and human survival.

Today, the world’s nuclear-armed states still face significant security threats, but none can be effectively resolved with nuclear weapons or the buildup of nuclear capabilities. Nevertheless, each of these states is modernizing its nuclear arsenal.

Throughout the Cold War, nuclear risk reduction efforts appropriately focused on the need to halt and reverse the buildup of the massive U.S. and Soviet arsenals. But in the coming years, a renewed and more comprehensive approach involving all major nuclear-armed states is essential.

Beginning in the late 1980s, U.S. and Soviet/Russian leaders negotiated four bilateral arms reduction agreements that have slashed their nuclear stockpiles. Despite that progress, each side still deploys about 1,500 strategic warheads on several hundred bombers and missiles—far more than necessary to deter nuclear attack. If these weapons were used even in a “limited” way, the result would be catastrophic global nuclear devastation.

Last year, U.S. President Barack Obama announced that the United States is prepared to pursue cuts that go an additional one-third below the ceilings set by the 2010 New Strategic Arms Reduction Treaty (New START). Russian President Vladimir Putin’s answer, so far, is “nyet.” He claims that U.S. missile defense plans threaten Russia’s retaliatory potential and maintains that other states’ nuclear arsenals must be addressed.

Clearly, Washington and Moscow can and must do more. Each possesses an arsenal that is 10 times larger than any other nuclear-armed adversary. Furthermore, with New START verification tools in place, additional nuclear reductions do not require the negotiation of a new treaty.

Despite sharp differences on Ukraine and other issues, Obama and Putin could jointly announce they will accelerate the pace of reductions under New START. As part of the announcement, each leader could say that he would be willing to go further as long as the other does so. A reasonable target would be to reduce each side’s arsenal to 1,000 deployed strategic warheads and 500 strategic delivery vehicles.

This approach could spur the world’s other major nuclear-armed states to get off the sidelines and join the game. The involvement of these states is essential.

As Hans Kristensen of the Federation of American Scientists wrote in Arms Control Today in May, the numerical nuclear arms race between the United States and Russia may be over, but elsewhere, “a dynamic technological nuclear arms race is in full swing and may increase over the next decade.”

China, India, and Pakistan, in particular, are all pursuing new ballistic missile, cruise missile, and sea-based nuclear delivery systems. In addition, Pakistan has dangerously lowered the threshold for nuclear weapons use by developing tactical nuclear weapons capabilities to counter perceived Indian conventional military threats. North Korea continues its nuclear pursuits in violation of its earlier denuclearization pledges.

These arsenals, although smaller in number, are dangerous and destabilizing. Leaders in Beijing, New Delhi, and Islamabad profess support for nondiscriminatory disarmament and minimum deterrence, but there is little or no dialogue among themselves and with others on nuclear risk reduction. Ignoring the commitment made by the nuclear-weapon states at the 2010 Nuclear Nonproliferation Treaty (NPT) Review Conference to undertake further efforts to reduce and ultimately eliminate all types of nuclear weapons, Chinese officials suggest they will not do so unless there are additional, deeper U.S. and Russian nuclear weapons cuts.

Some in Washington naively suggest that the response to these trends should be to increase the lethality and quantity of U.S. nuclear forces. That would only compound the problem by giving these states a cynical excuse to expand their arsenals even faster.

Frustrated by the slow pace of the nuclear-weapon states’ “step-by-step approach” to disarmament, more than 140 non-nuclear-weapon states have tried to catalyze progress by convening a series of conferences that document the catastrophic humanitarian consequences of nuclear weapons use. The effort is vitally important, but has not yet led to a unified, realistic diplomatic proposal for halting nuclear competition and starting multilateral disarmament talks.

Creative ideas are needed to overcome the obstacles and excuses. Beginning with the third humanitarian-consequences conference in Vienna this December and the 2015 NPT Review Conference, leading states, including the United States, should actively press those states not yet engaged in the nuclear disarmament effort to freeze the size of their arsenals and their fissile material stockpiles as a first step toward multilateral, verifiable reductions.

Nuclear weapons continue to pose global dangers. Their elimination is a global enterprise that requires renewed leadership, dialogue, and action on the part of all the world’s nations. A unified push for further U.S.-Russian arms cuts combined with a global nuclear weapons freeze could create the conditions for multilateral action on disarmament and open the door for multilateral talks on the elimination of nuclear weapons.

ACT

FOCUS
Notable Quotable

“When citizens are free to organize and work together across borders to make our communities healthier, our environment cleaner, and our world safer, that’s when real change comes…. We’ve…seen this spirit in…the global campaign against anti-personnel landmines. Tireless advocates like Jody Williams fought for the Ottawa Convention; leaders like Patrick Leahy have led the charge in Washington…. The point is this started in civil society. That’s what prompted action by President Clinton and by myself.”

—President Barack Obama, Clinton Global Initiative, New York, September 23, 2014

Fifteen Years Ago in ACT

The Risks of Further Nuclear Testing in South Asia

“All states need to exercise restraint, to turn a deaf ear to zealots and to defend arms control to prevent a more serious deterioration of international security.”

—William Walker, September/October 1999

BY THE NUMBERS

The Current Senate and the 1999 CTBT Vote

Makeup of the current Senate, by vote in 1999 on the Comprehensive Test Ban Treaty

15
Voted yes

13
Voted no

72
Were not in Senate

*The tally for the vote on October 13, 1999, was 48 in favor, 51 opposed, and one present.
News Briefs

Arms Trade Treaty Set to Enter Into Force

The Arms Trade Treaty cleared its last hurdle to becoming international law when seven nations announced ratification on Sept. 25 in a ceremony at the United Nations. The pact to regulate the global market in conventional arms, now joined by 53 countries, is set to enter into force on Dec. 24.

Under the terms of the treaty, it enters force 90 days after the 50th state deposits its ratification document.

In a statement read by Angela Kane, UN high representative for disarmament affairs, UN Secretary-General Ban Ki-moon commended Argentina, the Bahamas, Bosnia and Herzegovina, the Czech Republic, Portugal, St. Lucia, Senegal, and Uruguay for ratifying the treaty, which he called “a robust, legally binding commitment to provide a measure of hope to millions of people around the world.”

The European Union welcomed the prospect of the pact’s entry into force. “When effectively and widely implemented, the Arms Trade Treaty will make trade in conventional arms more responsible and transparent, thus reducing human suffering and tangibly contributing to international peace, security and stability,” the EU said in a statement.

The 17-page treaty requires all participating states “to effectively regulate the international trade in conventional arms, and to prevent their diversion” and to establish and implement “national control systems.” The treaty covers eight categories of weapons ranging from battle tanks and combat aircraft to small arms and light weapons, as well as ammunition and components.

The treaty was adopted by the UN General Assembly on April 2, 2013, by a vote of 154-3 with 23 abstentions. It was opened for signature on June 3, 2013.

The United States signed the treaty in September 2013, but the Obama administration has yet to submit the measure to the Senate for approval.

Under the terms of the treaty, a conference of the states-parties “shall be convened...no later than one year” after the treaty’s entry into force.—JEFFERSON MORLEY

U.S. Forswears Landmines Except in Korea

The United States announced on Sept. 23 that it would not use anti-personnel landmines (APLs) “outside the unique circumstances” of the Korean peninsula and would not “assist, encourage, or induce others to use, stockpile, produce or transfer” APLs anywhere beyond the peninsula.

According to the State Department, the decision opens the way for the destruction of a significant portion of the estimated U.S. stockpile of 3 million APLs, except for those deemed necessary for the defense of South Korea. U.S. forces are stationed there to help guard against a North Korean attack.

The newly announced measures “represent a further step to advance the humanitarian aims of the Ottawa Convention and to bring U.S. practice in closer alignment with a global humanitarian movement that has had a demonstrated positive impact in reducing civilian casualties” from APLs, the White House said in its Sept. 23 statement. The 1997 Ottawa Convention bans the use, development, production, acquisition, stockpiling, or transfer of APLs, as well as assisting or encouraging other states in those activities.

The announcement comes on the heels of a June statement in which the United States said it will not produce or otherwise acquire any anti-personnel munitions that are not compliant with the Ottawa Convention, including replacements for such munitions as they expire in the coming years. (See ACT, July/August 2014.) During a Sept. 23 telephone briefing, a senior administration official said the policy applies to all parts of the world, including the Korean peninsula.

According to the White House statement, the United States will continue to look for ways to “be compliant with” and “ultimately” to accede to the convention while ensuring that it can meet its defense commitments to South Korea. Officials speaking during the Sept. 23 briefing said that the Defense Department has been asked to produce a study on options to accomplish this.

Mine-ban advocates, including the United States Campaign to Ban Landmines, welcomed the announcement. In a Sept. 23 statement, the campaign called it a “positive step.”

In a Sept. 23 press release, Sen. Patrick Leahy (D-Vt.) called the announcement “a crucial step that makes official what has been de facto U.S. practice for a decade and a half. The White House has recognized what our NATO allies declared long ago: These inherently indiscriminate weapons that disproportionately harm civilians have no place in the 21st Century, and those who use them should be condemned.”

Leahy said the decision “brings U.S. policy closer to the international landmine ban treaty. It mirrors my legislation in 1997, cosponsored by 57 U.S. senators, including key Democratic and Republican leaders in the Senate today.”—DARYL G. KIMBALL

Scottish Vote Preserves UK Nuclear Force

Voters in Scotland rejected independence in a Sept. 18 referendum that threatened to break up the United Kingdom and force relocation of UK nuclear forces. By a margin of 55
percent to 45 percent, the electorate voted against abandoning Scotland’s 307-year-old union with England, Wales, and Northern Ireland.

The vote spared the UK government the expensive prospect of having to move its only nuclear submarine base, at Faslane, Scotland, and nuclear arms depot, in nearby Coulport. The Scottish National Party (SNP), sponsor of the referendum, had touted independence as a way to make the country free of nuclear weapons by 2020. Relocating the two facilities to England would have cost 2.5 billion to 4 billion pounds, according to a study by the Royal United Services Institute (RUSI).

The Faslane base is home port for the UK’s four Trident nuclear-armed submarines, each of which is equipped with as many as 40 thermonuclear warheads on U.S.-designed and -built ballistic missiles. “Trident” technically refers to the missile, but the term is used in the UK to mean the entire system.

The SNP sought to outlaw such weapons on Scottish territory.

“Trident is an affront to basic decency with its indiscriminate and inhumane destructive power,” the Scottish government declared in a November 2013 brief for independence.

The UK Ministry of Defence, which plans to replace the Trident fleet in the next decade, contended in an October 2013 analysis of Scottish independence that “the UK’s strategic nuclear deterrent plays an essential part in the UK’s and NATO’s overall strategy and provides the ultimate assurance against current and future threats.”

During the referendum campaign, the UK government promised to “devolve” more powers to the Scottish government. But defense will remain a “reserved” matter controlled by the government in London, and the Trident submarines will remain at Faslane, Malcolm Chalmers, a RUSI analyst, said in Sept. 19 e-mail.—JEFFERSON MORLEY

Resolution on Israel Fails at IAEA

For the second year in a row, a resolution critical of Israel’s nuclear program failed to pass the General Conference of the International Atomic Energy Agency (IAEA) last month.

IAEA member states voted 58-45 against the resolution on Sept. 25.

The nonbinding resolution, referred to as “Israeli Nuclear Capabilities” and sponsored by a group of 17 Arab states, called on Israel to put its nuclear facilities under IAEA safeguards and join the nuclear Nonproliferation Treaty (NPT) as a non-nuclear-weapon state.

In 2009 a similar resolution passed the IAEA conference for the first time after being voted down for years. An attempt the next year failed. The Arab states did not put the measure on the agenda in 2011 and 2012, saying they hoped that Israel would be more likely to attend a regional meeting on establishing a zone free of weapons of mass destruction (WMD) in the Middle East if it did not feel singled out for condemnation in the region.

The Arab states revived the measure in 2013 after the meeting on the WMD-free zone did not take place as planned in December 2012.

A commitment to hold the meeting by the end of 2012 was a critical piece of the consensus on the final document of the 2010 NPT Review Conference. A meeting subsequently was scheduled for December 2012 in Helsinki, but was postponed when it became clear that not all of the countries in the region were willing to attend the conference. (See ACT, December 2012.)

Israel does not publicly admit to possessing nuclear weapons, but is widely believed to have an arsenal of approximately 80 to 100 warheads. Israel is an IAEA member and has placed some of its nuclear facilities under agency safeguards.

Thomas Countryman, U.S. assistant secretary of state for international security and nonproliferation, said in a Sept. 25 statement that the United States “regret[ted]” that the resolution was introduced.

He said discussion of the resolution diverted IAEA member states from the “shared priority of strengthening the IAEA, and has diverted the regional states from the critical task of engaging with each other.”—KELSEY DAVENPORT

On the Calendar

| Oct. 7-Nov. 5 | UN General Assembly First Committee meeting, New York |
| Nov. 13-14 | Meeting of states-parties to the Convention on Certain Conventional Weapons, Geneva |
| Nov. 20-21 | International Atomic Energy Agency Board of Governors meeting, Vienna |
| Dec. 1-5 | Conference of states-parties to the Chemical Weapons Convention, The Hague |
| Dec. 1-5 | Meeting of states-parties to the Biological Weapons Convention, Geneva |
| Dec. 8-9 | Conference on the humanitarian impact of nuclear weapons use, Vienna |
| Dec. 24 | Entry into force of the Arms Trade Treaty |
The Arms Trade Treaty: Challenges for the First Conference of States Parties
Sibylle Bauer, Paul Beijer, and Mark Bromley, Stockholm International Peace Research Institute, September 2014

In this report, Sibylle Bauer and Mark Bromley of the Stockholm International Peace Research Institute and Paul Beijer, a Swedish Foreign Ministry official, identify the issues that parties to the Arms Trade Treaty (ATT) must address now that the global agreement is poised to enter into force (see page 5). At the preparatory meetings scheduled for late 2014 and 2015, the participating counties are to set a place and date for the first conference of states-parties. The countries also will have to set the location, role, and financing of the treaty’s permanent secretariat. The report notes that Finland, Sweden, and Trinidad and Tobago have offered facilities to house the treaty’s permanent secretariat. Without expressing a preference, the authors list several criteria that the location should meet. On the “divisive” question of funding, the authors favor both voluntary contributions and assessed contributions by states-parties. Another key challenge, they say, is harmonizing reporting templates on arms transfers and treaty compliance with the requirements of the already existing UN Register of Conventional Arms. “States and [nongovernmental organizations] that support the ATT process clearly have their work cut out” for them for the period between now and the end of the states-parties conference, the report says.—JEFFERSON MORLEY

Solving the Iranian Nuclear Puzzle
Toward a Realistic and Effective Comprehensive Nuclear Agreement

Iran’s nuclear activities have been at the center of international concern about the further spread of nuclear weapons for years. The United States and its partners have an unprecedented opportunity to negotiate a final agreement with Iran to ensure that its nuclear program is peaceful. This volume reviews the major issues and explains the policy options for a comprehensive nuclear agreement.

Download now at: www.armscontrol.org/reports

Arms Control Association
The Art of the Possible: The Future of the P5 Process On Nuclear Weapons

In 2007 the five recognized nuclear-weapon states convened for the first time to examine what nuclear transparency and confidence-building measures they could jointly pursue. The P5 process, as it came to be known, was born in a nuclear policy environment vastly different from the one that prevails today.

It was established as a result of an initiative from the United Kingdom, which was eager to reverse the stagnation it sensed in the nuclear-weapon states’ progress toward meeting their disarmament commitments under the nuclear Nonproliferation Treaty (NPT). In June 2007, UK Foreign Secretary Margaret Beckett argued for the need to “engage with other members of the P5 on transparency and confidence-building measures,” as well as to involve them in the testing of future verification regimes.

This initiative aligned with renewed interest in arms control and nuclear transparency measures in other nuclear-weapon states. French President Nicolas Sarkozy used his 2008 speech at Cherbourg to reveal new transparency measures for the French nuclear force. Shortly after entering office in 2009, U.S. President Barack Obama set out his commitment to work toward a world free of nuclear weapons. He promised to reach an agreement with Russia on a further round of strategic arms reductions by the end of 2009 and argued that this would “set the stage for further cuts” and that the United States would seek to include all the nuclear-weapon states in this effort.

The P5 process was launched at approximately the same time, and its first high-level conference took place in London in September 2009. Its value in the broader strategic context was clear, that a forum for multilateral confidence-building measures among the nuclear-weapon states in relation to their nuclear forces could support other bilateral and multilateral nuclear initiatives, in which there was fresh interest. Proponents of the process hoped that nuclear-weapon-state cooperation could gradually generate sustainable momentum toward further disarmament.

These encouraging developments breathed new life into the 2010 NPT Review Conference, at which the participating countries unanimously agreed on a 64-point action plan covering all three of the treaty’s pillars—disarmament, nonproliferation, and peaceful uses of nuclear energy. Of particular relevance to this discussion, the action plan called on the nuclear-weapon states to act together to reduce the number and role of nuclear weapons and to enhance transparency and mutual confidence. With this validation, the P5 process accelerated its efforts to undertake collaborative projects in time for the 2015 review conference.

The P5 process is now nearing that milestone. Over the course of its life, it has taken small but potentially important collective steps. The modesty of these steps, however, has made a...
number of non-nuclear-weapon states concerned that earlier promises, namely, that the P5 process would someday help facilitate new disarmament measures, may never come to pass. Instead of gradual progress, those states see only opacity and potentially insurmountable stagnation.

This impression is reinforced by the changes in relations among the nuclear-weapon states that have taken place over the past five years. These changes, such as those arising from the recent conflict over the future of Ukraine, have occurred outside of NPT meeting rooms. Antagonism of the type generated by the crisis in Ukraine is something the P5 process never had the power to counter. At the moment, the process is in a difficult position, caught between strategic realities and NPT pressures. It might still be possible for the P5 process to continue to undertake new initiatives, even if they are small and lack buy-in from all five members of the group. By doing so, the process could help lay the groundwork for more-ambitious disarmament endeavors that might become palatable if security relations among the nuclear-weapon states begin to improve. At the 2015 NPT Review Conference, these states should demonstrate the P5 process’ continued relevance by setting out a work plan detailing the initiatives they will pursue in the next NPT review cycle. Even this objective might be a challenge, given the reluctance of some nuclear-weapon states to support forward movement. Yet, without such a plan, doubts about the purpose of the process are likely to grow further, expanding the pressures that the five countries are likely to face from non-nuclear-weapon states in the NPT environment.

The First Frost
As the 2015 review conference approaches, the broad international context is likely to be very different from that of 2010. Strategic relations between Russia and the Western powers have worsened to a level not seen since the late 1980s. Prospects for further strategic force reductions, through a successor to the New Strategic Arms Reduction Treaty (New START), have long since receded. Even existing treaties, notably the Intermediate-Range Nuclear Forces Treaty, are coming under pressure.

Prospects for progress on other disarmament elements of the NPT action plan also have dwindled. The initial hope of the Obama administration that it might be able to resubmit the Comprehensive Test Ban Treaty (CTBT) to the Senate for approval, still a real prospect in 2010, has been dashed by the intransigence of Senate Republicans. The agreement to convene a conference on a zone free of weapons of mass destruction in the Middle East by 2012, a key element of the 2010 review conference consensus, may go unrealized even by mid-2015.

With almost every other disarmament track from the action plan in disarray or stasis, the P5 process has been left as one of the few remaining, albeit not untroubled, vestiges of the high hopes with which the participants in the 2010 review conference agreed to its final document. As a result, the process is now at risk of carrying a weight of expectations that exceeds the important but essentially supportive role it was intended to play. In the context of discussions among NPT-focused diplomats, it can sometimes appear as if the main obstacle to further progress on the P5 process or on disarmament more widely is the tension between forward-pushing non-nuclear-weapon states and resistant nuclear-weapon states. Although
these tensions are undoubtedly present, the main obstacles to progress on the process, as on most other elements of the disarmament agenda, lie between the nuclear-weapon states themselves. The common interest in developing cooperative arms control measures

**Progress So Far**

Efforts in the P5 process over the past five years have been focused on three areas: development of a glossary of nuclear terms, improvements in verification and monitoring, and the development of transparency and common reporting.

**Glossary.** The initiative to produce a common glossary of nuclear terms is the most substantive element in the group’s work plan. At the beginning of the process, the participants realized that further discussions on transparency and arms control could be hampered unless there was a common understanding of terminology. At the first meeting, therefore, the five states agreed to develop a glossary of nuclear terms. China later agreed to lead this initiative.

By early 2013, the group had agreed on a short list of around 200 to 300 terms in English. It then proceeded with the more challenging task of negotiating common definitions for them. Recently, however, the glossary process appears to have fallen behind schedule as a result of unspecified substantive disputes. It is hoped that forthcoming meetings of the experts working group can resolve any outstanding issues and the process of translation into Chinese, French, and Russian can begin. Fortunately, China continues to express its intention to submit a first draft of a glossary to the 2015 review conference. It is highly likely that a glossary, perhaps minus any divisive terms, will be presented at that event.

One key factor in assessing the initial success on the glossary strand of the process will be whether it has produced common definitions of terms on which there is not already agreement in other multilateral glossaries, such as that maintained by the International Atomic Energy Agency. A second important factor will be whether it is able to produce terms that are relevant for future transparency and disarmament processes, such as “nuclear warhead” or “strategic missile.” If the glossary produces nothing new in these areas after five years of work, skepticism as to the value of the process could grow. Inevitably, there will be some areas in which consensus will not be possible and more work will be needed. In order to gain support for the further development of the process, however, negotiators need to show some concrete results from their first round of work.

**Verification and monitoring.** The development of approaches to verifying and monitoring compliance with existing and future arms control treaties is already an important element in U.S.-Russian nuclear limitation regimes. It is likely to be of even greater importance if the numbers of weapons are reduced further or more states take on obligations to limit the size or shape of their arsenals.

As a result of this logic, ever since its 1998 “Strategic Defence Review,” the UK has devoted some resources to exploring the technical requirements for verifying nuclear disarmament, with a particular focus on warhead dismantlement. To the irritation of some other nuclear-weapon states who wish to avoid involving their non-nuclear-weapon counterparts in verification initiatives, the UK has been cooperating with Norway on joint warhead dismantlement verification research since 2007. In October 2013, the UK and the United States revealed for the first time that they had been conducting similar research for more than a decade. The UK has publicly declared its interest in exploring opportunities for collaboration with China on verification, and the two sides reportedly are now discussing the possibility. Beyond these largely bilateral initiatives, however, the five nuclear-weapon states have done little work together on the subject.

Multilaterally, technical experts from the five states convened in London in 2012 for a meeting on verification issues and again in Vienna in March 2013 with
respect to CTBT support. The group also has announced its intention to provide assistance to the field exercise that the Comprehensive Test Ban Treaty Organization (CTBTO) is scheduled to hold in Jordan in November and December.

Transparency and common reporting. Although verification of current data is off the agenda of the P5 process, there has been some progress on nuclear transparency, defined in this context as the publication of unverified information for the purposes of building confidence among the nuclear-weapon states and demonstrating NPT compliance to non-nuclear-weapon states. Progress on nuclear transparency was one of the priorities laid out in the 2010 action plan. Various items of the action plan call on the nuclear-weapon states to work toward qualitatively and quantitatively reducing their arsenals and report on their progress to the 2014 Preparatory Committee meeting for the 2015 NPT conference (Action 5), report regularly on action plan implementation (Action 20), and produce a standard reporting template into which transparency data could be entered, facilitating comparison among national declarations (Action 21).

The nuclear-weapon states reached agreement on such a framework and presented their results to the NPT preparatory meeting earlier this year. They asserted that this submission fulfilled their obligations under Actions 5, 20, and 21. Yet, the common headings agreed by the five for the reporting framework were so general as to have been of little value in building confidence. This reflects different national approaches to nuclear transparency among the five nuclear-weapon states and an overarching unwillingness at present to modify them substantially. Since 2010, France, the UK, and the United States have been willing to publish some aggregate information on their holdings of nuclear weapons and strategic delivery vehicles. By contrast, China and Russia have not been willing to do so.

The five documents did have some common substantive characteristics. Each provided some useful insight into the nuclear doctrine and arms control policy of the country that submitted it. Indeed, China concentrated almost exclusively on this subject in its disarmament section and excluded any details on the shape or size of its arsenal. On the whole, the five reports provide little new data, for example, on warhead or delivery vehicle numbers.

Some disarmament-oriented non-nuclear-weapon states said the reporting exercise, despite the well-worn content and flaws in delivery, was a good start. It was apparent that many of these states believe that this start had taken place only because of the inclusion of a deadline in the action plan. It is now widely expected that the nuclear-weapon states will repeat this exercise, at a minimum once every review cycle. One can expect the need for this commitment and what specifically it would mean to be a point of debate at the 2015 review conference. Should future iterations of the common reporting exercise take place, the nuclear-weapon states will be expected to provide new data as evidence of forward movement. Yet, the five countries are still some way from reaching consensus on a reporting framework that would replicate, even on an unverified and partial basis, the publicly available information exchange already taking place between Russia and the United States under New START.

Creating a Road Map
Limited movement in the P5 process over the past year has followed predictable but positive trajectories. The five nuclear-weapon states continued to brief one another on bilateral verification efforts, highlighting the possibility that bilateral projects and activities could fill gaps where multilateralism proves impossible. They forged ahead with their collective work to create a common glossary of terms. Finally, as they had committed to do in the 2010 action plan, they submitted national reports with a common framework. Although the reports contained only sparse instances of novel information, the exercise serves as a solid foundation for future reporting iterations.

Between now and the 2015 review conference, two outputs of the P5 process are on the horizon: coordinated national contributions to the CTBTO field exercise in Jordan and a first version of the glossary. Beyond those, the group’s agenda looks blank.

Because of the modest rate of progress, a growing number of non-nuclear-weapon states doubt whether the promised long-term value of the P5 process will ever be realized. A majority of the nuclear-weapon states do not feel compelled to pursue new, substantially more ambitious confidence-building exercises, especially in an age of mounting Russian aggression in Europe. Yet, without an effort by the nuclear-weapon states to continue taking
gradual steps and laying the foundation for future arms control agreements, the voices in the NPT community that assert that the P5 process is a hindrance or an irrelevance could grow louder.

In this context, a robust strategy that terms that are relevant to arms control and disarmament did not make the first cut, for instance, revisiting them to produce common definitions could be a worthwhile exercise. Regardless, the nuclear-weapon states have implied that to make progress in increasing the number of projects that can be used to demonstrate achievement during the next review cycle would be to look for opportunities for bilateral or multilateral projects that do not have buy-in from

[W]ithout an effort by the nuclear-weapon states to continue taking gradual steps and laying the foundation for future arms control agreements, the voices in the NPT community that assert that the P5 process is a hindrance or an irrelevance could grow louder.

spells out a forward-looking plan for activity by the nuclear-weapon states would demonstrate that they genuinely intend for the P5 process to continue to support NPT implementation, albeit primarily in the long term. They might therefore want to consider formulating a general post-2015 working plan that they would be able to discuss next year in New York. In doing so, it might be helpful for them to consider how the projects they have recently undertaken or can feasibly undertake in the near term could serve as stepping-stones to progressively more ambitious trust-building activities. Having such stepping-stones in place would be of particular value if relations among nuclear-weapon states improve in future.

A Move to Minilateralism?

Admittedly, identifying new projects that all five nuclear-weapon states would find palatable is difficult. As mentioned above, although the P5 process remains active, it has not been able to isolate itself from the wider cooling of relations among the nuclear-weapon states. One project, however, seems immediately agreeable to the group: a second iteration of the glossary. In 2013, approximately 200 of the more than 2,000 terms submitted made the short list for definition, leaving much more work to be done. It is difficult to assess what the value of another phase of the project would be without knowing which terms made that list. If numerous a second iteration of the project could appear on their post-2015 work plan. According to the joint statement from the group’s 2014 Beijing conference, the five countries are aiming to complete only the “first phase” of the glossary project by the start of the 2015 review conference.9

Beyond an expanded glossary, the group could amend its common reporting framework to include some quantitative aspects of the five states’ nuclear policies. This would be highly unlikely to cover data on national nuclear arsenals, at least in the medium term, as Beijing and others remain entirely uninterested in increasing transparency in that realm. Yet, the reports submitted to the 2014 Preparatory Committee meeting indicated that commonly articulated quantitative declarations might be possible in some areas. Financial contributions to the CTBTO or other relevant international agencies or transparency visits to nuclear-weapon states by experts of those institutions, for instance, are not as sensitive. A move toward regular provision of information under these categories could encourage continued and further multilateral cooperation by nuclear-weapon states. Moreover, it could familiarize states with a process of regularized quantitative declarations that could later be expanded if security dynamics permit.

Because some projects would not be supported by all five states, one way all five nuclear-weapon states, using the P5 process to coordinate such projects. In fact, the P5 process may already be on this trajectory. Nuclear weapons laboratories in the UK and United States will most probably continue their long-standing but only recently announced program of warhead dismantlement verification research. As noted above, the UK and China are reportedly in discussions about starting their own joint research on verification.

France, although apparently uninterested in warhead-focused work, might be open to a partnership with the UK, the United States, or both that would focus on the dismantlement of a nuclear facility. In particular, cooperation that looks at the practicalities of dismantling or disabling facilities capable of producing fissile material would have relevance for a future fissile material treaty. Since Sarkozy’s Cherbourg speech in 2008, France has sought to emphasize its decision to close nuclear facilities as a central component of its disarmament record. France boasts that it was “the first State to decide to shut down and dismantle its facilities for the production of fissile materials for explosive purposes...[and] the only State to have transparently dismantled its nuclear testing facility in the Pacific.”10 Proposals for technical cooperation that build on France’s record in facility dismantlement, with which other nuclear-weapon states also have experience, could gain traction with a majority of these states and could
catalyze a discussion that would be useful for future arms control.

Non-nuclear-weapon states may be understandably skeptical as to whether these bilateral initiatives can properly be classified as accomplishments of a process whose main purported purpose is that it brings together all five recognized nuclear-weapon states. Yet, the terrain on which all members of the P5 process can find agreement is small and shrinking. In the next NPT review cycle, the most likely package of work might include only one or two multilateral projects involving all five nuclear-weapon states, but a number of other initiatives involving fewer than five.

A shift toward this type of agenda could admittedly lead to the temptation to artificially badge activity as part of the P5 process in order to undercut any assertions that the process has stagnated. This need not be the case. Novel bilateral or minilateral projects could arise that would enhance NPT implementation. For example, joint UK-Chinese activity on warhead dismantlement verification would engage traditionally reticent Beijing in cooperative, disarmament-focused work, which would undoubtedly be a step in the right direction. Participants in the P5 process could use that process to brief their fellow nuclear-weapon states on progress on these types of projects and to coordinate and expand them. To an extent, the five-country meetings already have been used in this way. For instance, they provided a forum in which Russia and the United States delivered briefings to the smaller nuclear-weapon states on New START implementation.

Conclusion
The P5 process has been a useful addition to the broader system of interrelated international nuclear arrangements. It continues to provide an important mechanism through which the nuclear-weapon states are expected to demonstrate their shared commitments to fulfilling their NPT obligations. It already has yielded some modest results. More are in the pipeline for the period leading up to and including the 2015 NPT Review Conference, not least the common glossary of nuclear terms. Yet, the ability of the these five states to go beyond their current rate and depth of activity depends in large part on the improvement of broader security relations among them.

The difficult security situation, however, does not mean that the P5 process is condemned to irrelevance until that improvement transpires. To prove this, the group should articulate a work plan for the next NPT review cycle that includes activities and accomplishments that could help facilitate future disarmament and arms control measures. New bilateral verification research partnerships, a more ambitious version of the glossary, and agreement on some common quantitative elements for national transparency declarations, for example, could be worthwhile in this respect. Undertaking and coordinating such projects in the context of the P5 process would demonstrate the value of the process as a tool that can be readily strengthened if wider strategic relations between the major nuclear powers create an opportunity for greater disarmament progress.

When that day comes, there is likely to be strong support for an effective mechanism to coordinate and facilitate the disarmament efforts of the nuclear-weapon states. It would be better if the P5 process were at the ready, with nuclear-weapon-state officials having already worked together in a forum mindful of the NPT and the commitments that flow from it. Despite the recent deterioration of security relations among nuclear-weapon states and, as a result, in the prospects for disarmament, the P5 process is something nuclear-weapon and non-nuclear-weapon states should work to keep alive.

ENDNOTES

1. The five countries that the nuclear Nonproliferation Treaty recognizes as nuclear-weapon states (China, France, Russia, the United Kingdom, and the United States) also are the five permanent members of the UN Security Council.
10. Sarkozy speech.
11. Moisés Naim defines “minilateralism” as an approach that involves “gathering the smallest number of countries necessary to make a major change to the way the world addresses a particular issue.” Moisés Naim, “The G20 Is a Sad Sign of Our Uncooperative World,” The A-List (blog), Financial Times, February 15, 2013, http://blogs.ft.com/the-a-list/2013/02/15/ the-g20-is-a-sad-sign-of-our-uncooperative-world/. In the present article, the term is used to mean an approach involving some but not all of the five nuclear-weapon states.
Iran’s persistent expansion of its uranium-enrichment program and its covert construction of an underground gas-centrifuge enrichment facility at Fordow have contributed to concerns that Tehran harbors nuclear weapons ambitions. Arrangements for constraining Iran’s ability to use its declared enrichment facilities for nuclear weapons programs are a particularly controversial element in the ongoing multilateral negotiations over Iran’s nuclear program.

Much of the discussion about Iran’s potential production of highly enriched uranium (HEU) for use in nuclear weapons has focused on its three previously secret enrichment facilities that now are under International Atomic Energy Agency (IAEA) safeguards. The concern is that Iran could use these facilities to produce HEU, perhaps after withdrawing them from safeguards. Such concerns are understandable, but it is worth examining evidence from official and authoritative, unofficial Iranian and U.S. sources about the Atomic Energy Organization of Iran (AEOI), the entity that controls Iran’s enrichment program, including the Fordow facility and two other centrifuge facilities—a commercial plant and a pilot plant—located at the Natanz nuclear site. This evidence suggests that the AEOI is motivated, at least in part, by a desire to demonstrate its technical prowess via the enrichment program. Moreover, according to the evidence, AEOI nuclear activities appear to be exclusively peaceful, an observation consistent with U.S. intelligence assessments in 2007 and afterward that Iran had halted its nuclear weapons program in late 2003. If accurate, the evidence described in this article indicates that Iran’s declared facilities are not part of a plan to produce nuclear weapons. It is considerably more likely that Iran would attempt to develop nuclear weapons using covert undeclared facilities.

Nevertheless, although observers understandably suspect that Iran may possess undeclared nuclear sites, there is no public official evidence that Iran has enrichment-related facilities other than those operated by the AEOI. Furthermore, clandestine facilities could not easily substitute for Iran’s declared nuclear program as a source of material for a potential nuclear arsenal. It would be no simple feat for Iran to conceal an entire covert nuclear

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weapons program—a fact demonstrated by Tehran’s past failure to keep its secret nuclear activities hidden. For these reasons, a discussion of the AEOI’s role is germane to the larger debate over Iran’s nuclear program.

The AEOI

The AEOI is a powerful bureaucratic actor that has not only undertaken controversial nuclear activities, but also influenced Tehran’s diplomatic efforts to persuade the international community that its nuclear program is exclusively peaceful.

The International Atomic Energy Agency (IAEA), which has applied safeguards on the Iranian nuclear program since 1974, began investigating the program in 2002. The IAEA subsequently reported on various nuclear activities, some of which were related to uranium enrichment, that Tehran had failed to disclose to the agency.

Pursuant to agreements with France, Germany, and the United Kingdom (known collectively as the EU3), Iran suspended its enrichment program from the fall of 2003 to the summer of 2005. Starting in 2007, the UN Security Council adopted a series of resolutions that imposed sanctions on Iran. Tehran’s persistent efforts to continue and expand the program continue to generate fears that Iran is trying at least to develop the ability to produce a nuclear weapon. The unresolved IAEA investigation, some of which concerns Iranian activities possibly related to nuclear weapons development, has contributed to such fears.

Established in 1974, the AEOI initiated a number of activities related to nuclear power over a short period of time. After the 1979 revolution, Iran’s nuclear program was controlled by the Ministry of Energy, but the AEOI was split off from that ministry soon thereafter. The AEOI currently operates Iran’s declared enrichment program and has a variety of peaceful programs in areas such as agriculture, medicine, and basic nuclear research and development.

A Powerful Bureaucratic Actor

The AEOI has played a crucial role in Iran’s past diplomatic efforts concerning its nuclear program. The AEOI was in charge of such efforts until after an IAEA Board of Governors meeting in June 2003, during which the board first expressed “concern” about Iran’s past undeclared nuclear activities and urged Tehran to cooperate with the IAEA investigation.

Subsequently, Iran formed a committee within its Supreme National Security Council to coordinate the government’s nuclear diplomacy. This committee included various ministers, including the head of the AEOI, Hassan Rouhani, Iran’s recently elected president who formerly

Ali Akbar Salehi (right), head of the Atomic Energy Organization of Iran, attends a protest by Iranian students defending their country’s nuclear program outside the Fordow uranium-enrichment plant in Qom on November 19, 2013.
headed the negotiations concerning the nuclear program, stated during a July 2005 interview that the committee played a role in Tehran's refusal to end its enrichment program. The committee decided that "the nuclear fuel cycle was our red line and under no circumstances would we waive it," he explained.

Rouhani later revealed in a May 2012 interview that the AEOI had "wanted to end the suspension" of Iran's enrichment program.

The AEOI remains an important bureaucratic player, apparently leading Iran's interactions with the IAEA regarding the agency's investigation. In addition, AEOI experts participate in multilateral negotiations concerning Iran's nuclear program.

A Peaceful Entity
The AEOI has understandably been the subject of suspicions regarding its possible role in an Iranian nuclear weapons program. The organization undertook some of the nuclear activities revealed by the IAEA investigation, such as secret enrichment experiments. The AEOI is subject to sanctions imposed by the UN Security Council, the U.S. government, and the European Union that are designed to restrict Iran's ability to develop a nuclear weapons capability and induce the government to comply with the Security Council resolutions.

Nevertheless, there are several indications that AEOI activities are not part of a nuclear weapons program. First, a 2011 IAEA description of the management structure of Iran's suspected past nuclear weapons program does not include the AEOI. Second, the U.S. intelligence community appears to believe that AEOI nuclear activities are peaceful. For example, a 2007 National Intelligence Estimate (NIE), which judged that Iran had had a nuclear weapons program but halted it in late 2003, appeared to exclude the AEOI-run enrichment program. The NIE defined the weapons activities as "nuclear weapon design and weaponization work and covert uranium conversion-related work," not part of a nuclear weapons program.

Moreover, the U.S. intelligence assessment of Iran's underground enrichment facility at Fordow, the existence of which was made public by France, the UK, and the United States in September 2009, appears to illustrate the AEOI's peaceful role. The covert nature of that facility and its location on a military base have fed suspicions that the facility was part of a secret Iranian nuclear weapons program. U.S. intelligence community talking points from September 2009 indicated otherwise, stating that the facility's existence did "not contradict" conclusions of the 2007 NIE regarding Iran's nuclear weapons program. Part of the reason for this judgment, the talking points suggest, was that the Fordow facility was developed by the AEOI, its presence on a military base notwithstanding.

A Forceful Advocate
Iran's expansion of its enrichment program could be a product of bureaucratic aggrandizement rather than an effort to develop a nuclear weapon. The AEOI appears to have been a persistent and effective advocate of expanding the program. In his 2012 book, Seyed Hossein Mousavian, who was Iran's spokesman during the government's 2003-2005 negotiations with the EU3, portrayed the AEOI as an entity focused on its technical progress. According to his account, some Iranian Foreign Ministry officials "had been worried" that AEOI officials who "had previously taken the lead in handling" Tehran's nuclear discussions with the IAEA had been "overly optimistic and failed to predict the emergence of the nuclear crisis because of their focus on straightforward technical matters."
Council, explained in a 2004 speech that the government had granted the AEOI additional autonomy sometime between 1999 and 2000. That move allowed it “to become more active, without being forced to go through bureaucratic and regulatory labyrinths,” Rouhani said.19 He appeared to suggest that, as a consequence of these changes, the AEOI undertook the pre-2003 secret enrichment activities on its own initiative.20 For obvious reasons, the secret nature of these activities caused concern, but they may have been the result of AEOI freelancing rather than a nuclear weapons program.

Conclusion
Iran’s declared, AEOI-run enrichment facilities have an inherent nuclear weapons-related potential. Concerns about those facilities are likely to persist; determining the best way to address these concerns is beyond the scope of this article. There is legitimate trepidation regarding Iran’s potential nuclear weapons ambitions.

Yet, some observers’ concerns about Iran’s declared nuclear facilities may be overblown. “Who runs what” matters in Iran, and the current bureaucratic structure of the country’s nuclear program supports the U.S. intelligence community’s conclusion that Iran does not currently have a nuclear weapons program. The evidence described above indicates that the AEOI is an influential organization pursuing a peaceful nuclear program. Concerns about possible Iranian activities related to nuclear weapons are understandable, but those activities appear to have been halted and were not pursued by the AEOI. Although a great deal of public discussion about Iran concerns Tehran’s potential to produce weapons-grade enriched uranium using its AEOI-controlled facilities, Iran would likely use covert facilities to produce a nuclear weapon.

The AEOI is not above reproach. The organization was involved in undeclared nuclear activities of concern and could be connected with Tehran’s past nuclear weapons program. Nevertheless, Tehran’s determination to maintain at least part of its enrichment program may not indicate an intention to develop nuclear weapons. Observers and policymakers concerned about a future Iranian nuclear weapons program would do well to focus on Iranian entities other than the AEOI.

ENDNOTES
1. International Institute for Strategic Studies, Iran’s Strategic Weapons Programmes: A Net Assessment (Abingdon, Oxon, UK: Routledge, 2005).
2. Iran concluded these agreements in October 2003 and November 2004.
5. “If We Want Nuclear Energy, We Should Not Make a Fuss,” Sharq, September 7, 2013 (interview with Reza Amrollahi, former head of the Atomic Energy Organization of Iran [AEOI]).
7. In a 2004 speech, Hassan Rouhani identified the AEOI as “the authority that was basically handling all political and technical issues concerning this case” until after the IAEA Board of Governors meeting in June 2003. The AEOI “used to appoint the Islamic Republic of Iran’s representative to Vienna to deal with the IAEA,” he explained. “Beyond the Challenges Facing Iran and the IAEA Concerning the Nuclear Dossier,” Rahbord, September 30, 2005, pp. 7-38.
8. In a 2005 interview, Rouhani described the IAEA board’s action as “the first time that the issue took on widespread international dimensions.” Mehdi Mohammadi, “Nuclear Case From Beginning to End in Interview With Dr. Hasan Rouhani (Part 1): We Are Testing Europe,” Keyhan, July 26, 2005.
10. Mohammadi, “Nuclear Case From Beginning to End in Interview With Dr. Hasan Rouhani (Part 1).”
12. Iran signed a joint statement with the IAEA on November 11, 2013, describing a Framework for Cooperation to resolve the outstanding issues in the IAEA investigation of Iran’s nuclear activities.
13. For example, Ali Akbar Salehi, who was Iran’s foreign minister during the presidency of Mahmoud Ahmadinejad and currently is head of the AEOI, concluded a November 2013 agreement with the IAEA concerning this issue. See “Salehi: Technical Experts to Participate in Talks Between Iran, G5+1,” Fars News Agency, January 5, 2014.
19. “Beyond the Challenges Facing Iran and the IAEA Concerning the Nuclear Dossier.”
20. The AEOI also had considerable freedom of action in the past. The 1977 U.S. diplomatic cable describes the AEOI as possessing “unusual authority to hire staff and to initiate a high priority program.” U.S. Embassy Tehran, “Atomic Energy Organization of Iran, AEOI.”
Twenty years ago this month, North Korea and the United States concluded the Agreed Framework. That accord halted North Korea’s nuclear weapons program at Yongbyon in exchange for heavy fuel oil and the eventual provision of two light-water reactors (LWRs) at Kumho, North Korea.

The agreement was the result of prolonged negotiations during a tense period. Unfortunately, its success was temporary. Eventually it became clear that North Korea in the late 1990s was pursuing a clandestine program to enrich uranium for use in nuclear weapons in violation of the Agreed Framework. In October 2002, when an official U.S. delegation confronted the senior North Korean negotiator with this information during talks in Pyongyang, the negotiator admitted that North Korea was pursuing an enrichment program and other unspecified programs.

Subsequent to this admission, North Korean officials maintained that they did not have an enrichment program. They changed their story again in 2010, when they revealed to visiting U.S. nuclear expert Siegfried Hecker that they had an enrichment facility at Yongbyon with 2,000 spinning centrifuges. Hecker was permitted to visit this facility and was impressed with its sophistication. Thus, the issue of North Korea’s clandestine enrichment program was finally put to rest. North Korea proudly admitted having the program, despite its past disclaimers and the skepticism of observers in the United States and China who questioned the U.S. intelligence community’s assessment that North Korea had a clandestine enrichment program for nuclear weapons development.

The October 2002 meeting in Pyongyang triggered a series of events starting with the North pulling out of the nuclear Nonproliferation Treaty and the United States halting construction of the two LWRs and ceasing shipments of heavy fuel oil. North Korea then started to reprocess the more than 8,000 spent fuel rods at Yongbyon, stored in a cooling pond pursuant to the Agreed Framework, for the purpose of fabricating nuclear weapons. During this period, China brought the United States and North Korea together in April 2003 for talks in Beijing. Those discussions resulted in a decision to establish the six-party talks to address nuclear issues with North Korea through negotiations. The first six-party meeting was in August 2003.

As part of this process, the six parties issued a joint statement on September 19, 2005, committing North Korea to comprehensive and verifiable denuclearization in return for security assurances, economic assistance, and the eventual provision of LWRs. Although some subsequent progress was made, North Korea in 2008 refused to commit to a written verification protocol providing for meaningful monitoring.
of its denuclearization efforts. When confronted with their lack of cooperation on the monitoring, North Korean officials summarily declared an end to the six-party talks. This declaration came after the United States had complied with a request by North Korean officials to remove their country from the list maintained by the U.S. Department of State of countries supporting terrorism. To date, the six-party talks and related nuclear negotiations with North Korea have not resumed.

The Potential Threat

It is estimated that North Korea has six to 12 plutonium nuclear weapons and an active enrichment program. These realities must be addressed. North Korea has an active ballistic missile program that includes its long-range Taepo Dong missiles and its new KN-08 long-range, solid-fueled mobile missile that, according to people familiar with North Korea's missile program, is capable of reaching any location in the United States. North Korean missiles now pose an existential threat to South Korea and Japan and, once the KN-08 is operational, will pose such a threat to the United States and other countries.

Since 2006, North Korea has conducted three nuclear tests, four long-range Taepo Dong missile launches, and numerous launches of short- and mid-range ballistic missiles, all in violation of UN Security Council resolutions. The December 2012 Taepo Dong launch successfully put a North Korean satellite in orbit. The routine launches of Pyongyang's short- and mid-range missiles have established that these missiles are accurate. They are also in abundant supply, as North Korea has sold these missiles and its technical know-how to countries such as Iran, Libya, and Syria.

Despite UN resolutions prohibiting North Korea from selling or purchasing missiles and high-end weapons, North Korea has done its best to continue to sell these proscribed items, mainly for revenue purposes. The Proliferation Security Initiative, with more than 100 countries participating, has been relatively effective in monitoring North Korea's consistent attempts to circumvent these resolutions.

Since the death of Kim Jong Il in December 2011, his son and successor, Kim Jong Un, has assumed a more belligerent approach toward relations with Japan, South Korea, and the United States. With the reconstitution of a reactor, which has a capacity of 5 megawatts electric, and a reprocessing facility, which uses the standard PUREX (plutonium-uranium extraction) process for separating plutonium from spent fuel, at the Yongbyon site, North Korea is capable of producing more fissile material for nuclear weapons and may in fact be doing so. At the same time, Pyongyang apparently is expending resources on the miniaturization of these weapons, with the goal of mating them to ballistic missiles.

Overall relations with North Korea have deteriorated exponentially since the 2010 sinking of the Cheonan, a South Korean ship, which killed 47 sailors. In March and April 2013, North Korea threatened pre-emptive nuclear attacks against South Korea and the United States and brazenly posted a YouTube video of a simulated nuclear attack on New York.
City. Pyongyang followed that with the brutal execution in December 2013 of Kim Jong Un’s uncle, Jang Song Thaek, the second-most powerful official in North Korea, and the reported purge of officials whom Jang had appointed. These unsettling developments coincided with the unprecedented shuffling of senior generals in the Korean People’s Army, which contributed to speculation that the domestic situation in North Korea was fluid and potentially volatile.

North Korea’s active nuclear and missile programs, if unchecked, could encourage other countries such as Japan and South Korea to build their own nuclear weapons despite extended-deterrence commitments from the United States. Senior Japanese and South Korean officials often broach this subject in private conversations with their U.S. counterparts, noting the nuclear threat from North Korea and their concern that North Korea will not give up its nuclear weapons and will build more nuclear weapons and missile delivery systems capable of defeating any missile defense system in these countries.

Current UN sanctions on North Korea are having a significant impact. Additional UN sanctions may target the leadership’s money and deny Pyongyang access to international financial institutions, which are necessary for the movement and laundering of its money. North Korea undoubtedly will work hard to circumvent these sanctions and acquire needed revenue through the sale of missiles, high-end weapons, and possibly even nuclear materials and nuclear know-how.

Pyongyang’s past nuclear relationship with Syria should not be forgotten. The preponderance of evidence indicates that North Korea provided Syria with the assistance and materials necessary to build a plutonium-based nuclear weapons program. The key element of the assistance was a gas-graphite reactor with an estimated capacity of 40 megawatts thermal, making it similar to but larger than North Korea’s Yongbyon reactor. This is a powerful reminder that nuclear proliferation from North Korea is a concern.

Chinese Action Needed

Progress in addressing North Korea’s nuclear programs depends greatly on China’s role because North Korea depends on China for food and most of its energy supply. Historically, the bilateral relationship with China, memorialized in a 1961 treaty, was deep and thorough—like “teeth and lips,” as it was described in a common refrain from China and North Korea during the warmer days of their relationship.

China is North Korea’s only meaningful ally, even with the current tension in the bilateral relationship. After the implosion of the Soviet Union, Russia scaled back its relations with North Korea, leaving only China as the North’s true benefactor. Indeed, China provides North Korea with more than 70 percent of the country’s requirements for crude oil; significant amounts of food and aviation fuel also come from China. Chinese-North Korean trade was worth more than $1.3 billion last year, with China investing heavily in the North’s precious-metals sector. Although bilateral relations have deteriorated since Kim Jong Un succeeded his father and one seldom hears the “teeth and lips” refrain, the relationship is still strong.

Given the close and long-standing relationship between the two countries and the reliance of North Korea on China for energy and food assistance, the United States believes that China can exert more pressure on the North to return to meaningful nuclear negotiations and persuade North Korea to take some important steps. In particular, North Korea would be expected to declare that it is still committed to the 2005 joint statement and thus is prepared to dismantle its nuclear program in return for assurances that the United States and other countries would not invade the North or seek regime change and for economic assistance that would include engagement with international financial institutions, the provision of LWRs, and, ultimately, the establishment of normal relations with Japan, South Korea, and the United States.

Only China has this leverage with North Korea, and it is in China’s interest to use this leverage to ensure that North Korea returns to meaningful negotiations. A refusal by North Korea to give up its nuclear weapons could incite other countries in the region to pursue their own nuclear weapons programs, as noted above. Such a development would be of great concern to China. Also of concern to Beijing would be the possible proliferation of nuclear materials and the resulting adverse effects on China of such proliferation.

As it did in 2003, China should promptly convene an exploratory meeting in Beijing with North Korea and the four other countries involved in the six-party talks process. This meeting would determine if North Korea is committed to fulfilling the terms of the 2005 joint statement. If it is committed to that goal, then the resumption of talks, focusing on implementation of the joint statement, would be possible. This would benefit the international community and constitute a diplomatic success for China. Convincing China’s new leader, Xi Jinping, to take the lead on this issue also could lead to a closer dialogue on other issues currently affecting China’s relationship with the United States and other countries.

If North Korea refuses to give up its nuclear weapons, then China, Japan, Russia, South Korea, and the United States need a strategy for dealing with a nuclear North Korea capable of destabilizing the region. This strategy would need to ensure that North Korea does not proliferate missiles, high-end weapons, and nuclear materials.

Permitting North Korea to retain and build more nuclear weapons will destabilize Northeast Asia. That could lead to a nuclear arms race in the region and the potential for a progressively isolated and desperate North Korea proliferating nuclear materials and know-how. China, with the support of the United States, must prevent this from happening.

ENDNOTES


President Barack Obama last month urged Iran to take advantage of a “historic opportunity” to reach a nuclear agreement with the United States and five other world powers, but after a week of talks, Iranian President Hassan Rouhani said negotiators made little progress.

In his Sept. 24 speech at the opening of the UN General Assembly session, Obama said it is possible to negotiate an agreement that meets Iran’s energy needs and assures the world that Tehran’s program is entirely peaceful.

Rouhani, speaking to the same body the following day, also used the term “historic opportunity.” But at a Sept. 26 press conference, he said progress had “not been significant” and movement toward an agreement had been “extremely slow.”

Obama’s and Rouhani’s remarks came a week after the resumption of nuclear negotiations between Iran and the six powers known as the P5+1 (China, France, Germany, Russia, the United Kingdom, and the United States).

French Foreign Minister Laurent Fabius told reporters on Sept. 26 that there were “no significant advances” during the round of talks. A senior U.S. administration official said in a separate press event the same day that the parties “do not have an understanding on all major issues” and that Iran will need to make some difficult decisions to conclude a comprehensive agreement.

An interim deal reached by Iran and the P5+1 last November set a target date of July 20 for reaching a comprehensive agreement, but allowed for an extension of the talks if all parties agreed. (See ACT, December 2013.) On July 19, Iran and the P5+1 agreed to extend negotiations on a comprehensive nuclear deal through Nov. 24. (See ACT, September 2014.)

Before the talks resumed on Sept. 18, several of the six countries, including the United States, met bilaterally with Iran to discuss the nuclear negotiations.

Although Obama and Rouhani did not meet, U.S. Secretary of State John Kerry and Iranian Foreign Minister Mohammad Javad Zarif met twice to discuss the nuclear talks.
Kerry and Zarif met again, with Catherine Ashton, EU foreign policy chief and leader of the P5+1 delegation, on Sept. 25 to discuss how to move forward on the remaining issues.

In addition to the bilateral meetings, a number of plenary sessions and technical meetings took place from Sept. 18 to Sept. 26.

Ashton had requested that the foreign ministers from all seven countries be available for a ministerial-level meeting if she needed to “consult them collectively” but that proved unnecessary, Ashton spokesman Michael Mann said Sept. 26.

Talks are expected to resume in mid-October.

**Uranium Enrichment**

Iran is determined to “enjoy its full nuclear rights under international law,” including uranium enrichment, and is committed to a deal that “removes concerns” from both sides, Rouhani said in his address to the General Assembly.

Determining the future size and scope of Iran’s uranium-enrichment program is one of the most significant obstacles that negotiations must resolve before the Nov. 24 deadline.

The P5+1 wants to reduce Iran’s uranium-enrichment capacity and put limits on other elements of its program, including the stockpiles of enriched material and the types of new centrifuges that Iran is developing. These limits would increase the amount of time it would take for Iran to enrich uranium to provide enough weapons-grade material for one bomb. In such material, more than 90 percent of the material is uranium-235. Iran currently is enriching uranium to less than 5 percent U-235.

Iran says it needs to increase its uranium-enrichment capacity to provide fuel for nuclear power reactors it plans to build.

At an event at the Council on Foreign Relations in New York on Sept. 17, Zarif said Iran does not need to increase its uranium-enrichment capacity in the near term. Russia provides fuel for Iran’s sole nuclear power plant, Bushehr, under a contract that lasts until 2021.

To produce the fuel for Bushehr domestically, Iran would need a tenfold increase in its uranium-enrichment capacity. But Zarif said Iran “does not need all these centrifuges tomorrow” or in a year’s time. Iran has time to demonstrate the peaceful nature of its nuclear program and therefore “establish the type of confidence that is required” by the international community before Tehran can expand its uranium-enrichment capacity, Zarif said.

The P5+1 has said it wants limits to Iran’s program for a period of at least 10 years. Zarif said that if Iran cannot establish international confidence in its nuclear program in five years, then “a deal is meaningless.”

**New Proposal Reported**

On Sept. 19, *The New York Times* reported that the P5+1 had proposed disconnecting Iranian centrifuges that are installed but not currently enriching uranium.

Typically, 174 single centrifuges are connected with pipes to form a cascade for enriching uranium more efficiently.

Iran currently has about 10,200 first-generation, or IR-1, centrifuges producing uranium enriched to less than 5 percent, which is suitable for nuclear power plants. About 8,000 additional...
first-generation centrifuges and 1,008 second-generation centrifuges are installed but not operating.

According to the Sept. 19 article, the P5+1 proposed that, as part of a deal, Iran remove the pipes that connect the centrifuges. This would prevent Iran from quickly beginning enrichment using the machines, but does not require removing the centrifuges, which Iran says it will not do.

A Western official familiar with the talks said that disconnecting the pipes is only “one element of a larger proposal” to limit Iran’s uranium-enrichment capacity. In a Sept. 24 interview, he said that “other factors are being considered and discussed.”

Those comments are consistent with remarks made by a senior Obama administration official in speaking more broadly about the potential deal at a Sept. 18 press briefing. The official said that there are “many components” to a deal that ensures that Iran’s nuclear program is entirely peaceful. The official said that the elements must “come together in a way that gives us and the international community confidence that the program is exclusively peaceful and Iran will not acquire a nuclear weapon.”

A spokeswoman for the Iranian Foreign Ministry said on Sept. 23 that Iran had not accepted or rejected the idea of disconnecting the pipes.

Members of Congress expressed concern about the prospect of disconnecting the pipes between centrifuges.

In a Sept. 19 letter to Kerry, 31 Republican senators, led by Sen. Mark Kirk (Ill.), asked the administration if it was willing to accept anything less than complete dismantlement of Iran’s enrichment program and the partially built Arak heavy-water reactor. The reactor, which Iran says is designed to produce isotopes for medical purposes, would produce plutonium that is particularly suitable for nuclear weapons once it is separated from the spent fuel.

Negotiators have said that before the decision in July to extend the talks, they made progress on agreeing to decrease the plutonium output of the reactor.—KELSEY DAVENPORT

IAEA Reports Delay in Iran Probe

Iran provided the International Atomic Energy Agency (IAEA) with access to several nuclear facilities in August, but is behind schedule on turning over information on alleged activities related to nuclear weapons development, according to the agency’s director-general.

Yukiya Amano told the IAEA Board of Governors on Sept. 15 that Iran expressed a willingness to “accelerate the resolution of all outstanding issues” and has begun discussions with the agency about the two remaining actions of the five that Tehran agreed to complete by Aug. 25.

Iran’s ambassador to the IAEA, Reza Najafi, said on Sept. 18 that the actions have not been completed “due to their complexity” and because the IAEA allegations are based on invalid information. Najafi said that the IAEA characterization that Iran had “missed the deadline” of Aug. 25 is inaccurate because the agency was aware Iran might not complete the actions by that date.

On May 21, Tehran pledged to provide the agency with information in five areas of concern to the IAEA. (See ACT, June 2014.) These actions are part of a November 2013 agreement, the Framework for Cooperation, in which Iran and the IAEA committed to “resolve all present and past issues,” including allegations of activities with possible relevance for developing nuclear weapons, or “possible military dimensions,” as the agency refers to them. (See ACT, December 2013.)

The IAEA laid out its concerns about possible weaponization activities in detail in its November 2011 report to its board, but did not hand over its evidence to Iran. (See ACT, December 2011.)

Iran maintains that its nuclear program is entirely peaceful. Najafi said Iran denies the allegations of weaponization activities and that there are no “authenticated documents” to back up the IAEA allegations. Nevertheless, Iran will continue to cooperate to clarify the ambiguities, he said.

The two incomplete actions include providing information on certain kinds of high explosives that could be relevant to nuclear weapons and information on studies “in Iran in relation to neutron transport and associated modelling and calculations and their alleged application to compressed materials.” Neutron transport studies can be relevant to nuclear weapons development.

Iran has already completed 13 actions by two agreed-on deadlines earlier this year, including providing the IAEA with information on the alleged weaponization issue involving exploding bridge wire.

Reza Najafi, Iranian ambassador to the International Atomic Energy Agency, attends a June 2 session of the quarterly IAEA Board of Governors meeting in Vienna.
Najafi said that the information proved that the detonators were for civilian applications in the oil and gas industry. The IAEA, however, has said that it will not issue an assessment until Iran has furnished information on all the alleged weaponization activities.

In his Sept. 15 remarks to the board, Amano said the IAEA also had requested that Iran provide the agency with proposals for new practical measures by Sept. 2 to advance the IAEA investigation under the Framework for Cooperation. Amano said that Iran had not proposed any new measures.

Najafi said that as soon as the remaining two actions are completed, Iran and the IAEA can discuss additional measures.

In comments to the press Sept. 15, Amano said the IAEA investigation could be completed in about 15 months if Iran cooperated. The aim of the probe is to give the IAEA an understanding of the “whole picture” so that it can issue a factual assessment of the alleged weaponization activities to the IAEA board, Amano said.

**U.S. Reaction**

Laura Kennedy, chargé d'affaires at the U.S. mission to the IAEA, said Sept. 18 that the United States is concerned “about the pace of progress in addressing the possible military dimensions of Iran’s nuclear program.”

She urged Iran to “intensify its engagement” with the IAEA and implement the measures “without delay.”

Rep. Ed Royce (R-Calif.), chairman of the House Foreign Affairs Committee, and Eliot Engel (D-N.Y.), the panel’s ranking member, have drafted a letter to U.S. Secretary of State John Kerry expressing their concern over Iran’s “refusal to fully cooperate” with the IAEA investigation. The draft letter, circulated among House members for signature on Sept. 16, said that the only “reasonable conclusion” to be drawn from Iran’s “stonewalling” of the IAEA investigation is that Iran has “much to hide.” As Arms Control Today went to press, the letter had not been sent.

Royce and Engel said that Iran’s willingness to reveal aspects of its nuclear program, including the alleged weaponization activities, is a “fundamental test” of Iran’s intention to uphold a comprehensive nuclear agreement.

Separately from the talks with the IAEA, Iran is negotiating with the United States and five other world powers over limits to its nuclear program in exchange for sanctions relief (see page 21).

**Completed Actions**

In its most recent quarterly report on Iran’s nuclear program, the IAEA said that one of the five actions was completed before the Aug. 25 deadline, while the other two were completed Aug. 30-31.

According to the Sept. 5 report, Iran provided the agency with access to a centrifuge assembly workshop Aug. 18-20 and access to a centrifuges research and development center Aug. 30.

On Aug. 31, Iran and the IAEA agreed on a safeguards approach for the Arak heavy-water reactor. Under that approach, the agency is to have regular access to the partially built reactor and receive updates on design information. Iran halted construction on the reactor in January as part of an interim agreement with the six world powers.—KELSEY DAVENPORT

**OPCW Confirms Chlorine Attacks in Syria**

Evidence gathered by an investigative team from the Organisation for the Prohibition of Chemical Weapons (OPCW) forms a “consistent and credible narrative” of use of a toxic chemical as a weapon in Syria in recent months, the team said in a report issued Sept. 10.

The group concluded “with a high degree of confidence” that “chlorine, either pure or in mixture, is the toxic chemical in question.”

The team did not assign responsibility for the attacks, which Syrian government and the rebels fighting to overthrow it have blamed on each other. But the OPCW investigators reported that “witnesses invariably connected the devices to helicopters flying overhead.”

In a Sept. 21 statement commenting on the report, U.S. Secretary of State John Kerry said that because helicopters constitute “a capability the opposition lacks,” the evidence “strongly points to Syrian regime culpability.”

The forces of Syrian President Bashar al-Assad frequently have used helicopters to drop conventional explosives. The report described one incident in which a child standing near the
landing point of a bomb dropped from a helicopter “died later because of exposure to the toxic chemical, while showing none of the obvious physical trauma as that usually inflicted by a conventional explosive device.”

The OPCW launched the fact-finding mission in April after allegations of chlorine use near the Syrian village of Kafr Zita. (See ACT, May 2014.) In May, a convoy carrying members of the OPCW team to Kafr Zita came under attack and had to turn back. For the report, the investigators interviewed witnesses from Kafr Zita and two other villages in northern Syria, Al Tamanah and Talmenes. The report said it also drew on documentation such as medical records.

According to the report, there was a “marked reduction” in allegations of chlorine use in May, June, and July. But in August, there was “a spate of new allegations, with accounts of the incidents bearing strong resemblance to those that are now confirmed as having been chlorine attacks.”

The United States is “gravely concerned” about the investigative team’s findings, which “point to” a CWC violation, Kerry said in his statement. Chlorine is not one of the toxic chemicals specifically listed in the Chemical Weapons Convention (CWC), but its use as a weapon would constitute a violation of the treaty.

Syria joined the CWC a year ago as part of an agreement hammered out by Kerry and Russian Foreign Minister Sergey Lavrov. That agreement formed the basis for actions by the OPCW Executive Council and UN Security Council under which more than 1,000 metric tons of chemical weapons material were removed from Syria for destruction elsewhere.

Kerry also expressed “deep concerns regarding the accuracy and completeness” of Syria’s declaration of its arsenal to the OPCW when Damascus joined the CWC.

During a Sept. 4 press briefing at the United Nations, Sigrid Kaag, the head of the OPCW-UN joint mission that has been overseeing the chemical disarmament work in Syria, said the discrepancies fall into several categories. She listed paperwork and documentation, areas “where the [Syrian] authorities have indicated that chemical materials have been destroyed” but the destruction “happened a long time ago [and] the records are not up to date,” and “areas where there are concerns over possible discrepancies in volume and other such matters.” There has been “close dialogue and cooperation” with the Syrians on these questions, she said.

Another issue that bears close watching, U.S. officials and others have said, is the destruction of Syrian chemical weapons production facilities. After protracted negotiations, the OPCW on July 24 announced an agreement on a plan for destroying 12 facilities. They comprise seven hangars and five underground structures, which are part of a system of tunnels. (See ACT, September 2014.)

At the UN briefing, Kaag said the tunnels would be destroyed by a method of “mix and fill.” It is “not high tech, and the equipment that’s going to be used is available in [Syria],” she said. The hangars are to be destroyed by chemical implosion, which is a little more complicated but “can be done,” she said.

Under the timetable in the July 24 OPCW decision document, the destruction of the hangars was to begin in late September and destruction of the underground structures a month later. But the document also says that the timelines for destruction “are estimates and could be refined after further consultation with technical experts and on the basis of initial experience in implementing this decision.” The Executive Council “shall review the timelines” to ensure that they “remain practical and realistic,” the document stated.

At a Sept. 10 event at the Center for Security and International Studies, Laura Holgate, senior director for weapons of mass destruction terrorism and threat reduction at the U.S. National Security Council, said meetings were taking place on issues such as “contracting and the methodologies involved and exactly when the [OPCW] inspectors will be where to observe what part of the destruction.”

In a Sept. 15 e-mail to Arms Control Today, a State Department official said the OPCW as saying that the “start of the destruction of the hangars will fall in October.” The department has no information on a “specific start date” for the tunnels, the official said.

The OPCW did not respond to a request for information on the start dates.

In her Sept. 4 comments, Kaag estimated that the destruction activities would be completed by the end of March. Four of the 12 facilities are in “security-affected areas,” she said.

Regarding Syria’s adherence to the schedule, the State Department official said, “There are no guarantees[,] and we recognize that the work is both complex and unprecedented[,] but the United States will insist that the Syrian government provide the required support and assistance to enable the timely destruction of its remaining chemical weapons production facilities.”—DANIEL HORN

Sigrid Kaag, the head of the joint mission by the Organisation for the Prohibition of Chemical Weapons and the United Nations overseeing the elimination of Syria’s chemical weapons program, speaks to journalists at the United Nations on September 4.
Russia and the United States failed in a high-level September meeting to end a standoff over Washington’s claim that Moscow breached a landmark nuclear arms control treaty by testing a new medium-range, ground-launched cruise missile as early as 2008, officials from the two governments said. The U.S. State Department formally issued the long-discussed claim in a July 2014 compliance report amid rising international tensions tied to Moscow’s backing of separatist forces in eastern Ukraine.

The United States asserted that the Russian tests constituted a violation of the Intermediate-Range Nuclear Forces (INF) Treaty, signed in 1987 by President Ronald Reagan and Soviet leader Mikhail Gorbachev. Russia and the United States continue to possess nuclear arsenals far larger than any other country’s, and the alleged violation has been seen as further dampening prospects for any new bilateral initiative to further draw down the stockpiles.

“The U.S. concerns were not assuaged in this meeting,” State Department spokeswoman Marie Harf said at a press briefing on Sept. 11, after the INF Treaty compliance meeting in Moscow. “We had a useful exchange of ideas. We agreed to continue the dialogue.”

The Russian Foreign Ministry issued a statement affirming a shared interest in keeping the treaty in force, but added that “no satisfactory answers were given to Russia’s questions” in the September talks. Russia did not elaborate on its concerns, but Moscow recently suggested that Washington might itself be guilty of violating the treaty.

“It is not a secret that the main problems with [the treaty’s] implementation occurred many times because of the United States,” the Russian Foreign Ministry said in a July 31 statement. The ministry contended that Washington has breached the pact by deploying armed unmanned aerial vehicles and by launching target missiles to test its defensive interceptors. Moscow tied additional possible violations to the MK-41 Vertical Launching System used on some U.S. warships.

The United States dismissed the suggestion that it may be guilty of stretching the pact’s terms. “We... reject any notion of any noncompliance issues on our side here,” Harf said at the briefing. The U.S. delegation to the meeting was led by Rose Gottemoeller, undersecretary of state for arms control and international security. The team included representatives from the National Security Council and the Defense and Energy departments.

Washington and Moscow agreed to convene additional discussions, but neither side offered any hint of the timing for follow-up talks. In Sept. 16 remarks to the state-run RIA Novosti news agency, Russian Deputy Foreign Minister Sergey Ryabkov appeared noncommittal about pursuing the exchange.

“It is possible that the dialogue on
the issue will continue,” Ryabkov said. “However, at the moment we have no common understanding of when and where this dialogue may continue.”

The 1987 treaty, which remains in effect, was the first between the United States and Soviet Union to incorporate a tight regime of on-site inspections to verify reductions to their respective nuclear stockpiles. The pact eliminated a combined total of nearly 2,700 intermediate-range ballistic and cruise missiles with ranges between 500 and 5,500 kilometers.

The lingering compliance controversy has remained a key concern on the U.S. Senate Foreign Relations Committee, where lawmakers were set to weigh a draft proposal aimed at barring nuclear arms reductions beyond those mandated under the 2010 New Strategic Arms Reduction Treaty (New START).

The initiative, contained in a continuing appropriations resolution for the 2015 fiscal year, would bar the administration from unilaterally pursuing nuclear weapons reductions beyond those required under New START. That pact requires Russia and the United States to cap their nuclear deployments by 2018 at 700 missiles and bombers on each side, with backup fleets of no more than 100 additional delivery vehicles. The treaty also would bar each country from deploying more than 1,550 nuclear warheads.

Spokespeople for Chairman Robert Menendez (D-N.J.) and the committee’s ranking member, Sen. Bob Corker (R-Tenn.), declined to specifically address how the lack of progress in September’s bilateral talks might affect their consideration of the proposed New START limitations.

Meanwhile, others in Congress have considered the military impact of any new Russian missiles deployed in breach of the treaty. In a Sept. 8 commentary for Foreign Policy magazine, Sen. James Inhofe (R-Okla.) argued that if Moscow deployed the mobile, intermediate-range cruise missile, it would undermine NATO deterrence and assurance planning, as a ground-launched weapon would be “much harder to find” than counterparts deployed on submarines and aircraft.

“The Russian deception of negotiating a nuclear arms reduction while building up nuclear arms poses a direct threat to the United States,” said Inhofe, the ranking member of the Senate Armed Services Committee.

Speaking to The New York Times in April, Gen. Philip Breedlove, the head of U.S. European Command, said the United States and NATO would need to respond in some fashion if they could not resolve concerns over Russia’s possible INF Treaty violation.

“It can’t go unanswered,” added Breedlove, who is also NATO’s top-ranking commander.—DIANE BARNES

NATO Moves Trigger Russian Response

In response to Russian intervention in Ukraine, NATO countries agreed last month to create a rapid reaction force, endorse new economic sanctions against Russia, and boost defense spending. Russian President Vladimir Putin countered by ordering a major military exercise and repeating previous declarations that his country would fortify its conventional and nuclear forces.

“Russia’s aggressive actions against Ukraine have fundamentally challenged our vision of a Europe whole, free, and at peace,” the NATO countries declared at the end of their Sept. 3-5 summit meeting in Wales.

According to the Associated Press, Putin responded by saying, “We have warned many times that we would have to take corresponding countermeasures to ensure our security.” In Sept. 11 comments, Putin said Russia’s weapons modernization program over the next decade would focus on building a new array of offensive weapons to provide a “guaranteed nuclear deterrent,” rearming its air force, and developing high-precision conventional weapons.

The actions marked a further worsening of relations between Russia and NATO over Ukraine and a setback for arms control efforts, according to regional experts.

The 28 member countries of NATO agreed to create a 4,000-person “spearhead” force, capable of deploying anywhere within the territory of alliance members on 48 hours’ notice.

NATO already has a response force, but several days are required to place those troops on the ground at a target destination. The new force will include ground troops with air and maritime support, as well as special operations forces to confront the type of paramilitary forces now fighting in eastern Ukraine.

The creation of the new force “sends a message to the Baltic states and the Poles and Romanians and others that as far as NATO as a whole is concerned, their territory is as important to NATO as any other piece of territory, and that they can count on not only America’s commitment, but NATO’s commitment to their collective defense,” Ivo Daalder, former U.S. ambassador to NATO, said during a Sept. 3 press call.

“That, in turn, is meant to send a signal to Vladimir Putin

French President François Hollande (center left) and U.S. President Barack Obama (center right) meet on September 5 during the NATO summit in Newport, Wales.
and to Moscow that basically says, ‘Don’t even think about doing what you’re doing in Ukraine on NATO territory because we will react swiftly, quickly, rapidly, and with maximum force to make sure that you do not succeed,’” Daalder said.

The Western allies expect to have “an initial capacity with this much more rapid response time in less than a year,” NATO Deputy Secretary-General Alexander Vershbow said in a Sept 18 speech in Poland. “It won’t be all finished, but we recognize that the threats are here, [and] we can’t put this on the slow track.”

The new sanctions target Russian state-owned financial, defense, and energy companies. They strengthen measures that the United States and the European Union instituted in late July to target key engines of the Russian economy after the downing of Malaysia Airlines Flight 17 over eastern Ukraine.

**France Suspends Deal**

Under pressure from Western allies, France announced on the eve of the NATO summit that it was suspending the scheduled delivery to Russia of a French-made Mistral helicopter carrier ship for two months.

“Russia’s recent actions in the east of Ukraine contravene the fundamental principles of European security,” said a statement from the office of President François Hollande. According to the statement, Hollande “has concluded that despite the prospect of [a] ceasefire [in Ukraine], which has yet to be confirmed and put in place[,] the conditions under which France could authorise the delivery of the first helicopter carrier are not in place.”

In a press conference at the NATO summit, Hollande said he would review the suspension in late October and that he had two conditions for delivery of the ship: a cease-fire in Ukraine and a political settlement that resolves the country’s crisis.

The NATO countries pledged during the summit to reverse a trend of declining defense budgets by committing to move toward spending 2 percent of their gross domestic product on defense. In 2012, only the United States (4.5 percent), United Kingdom (2.5 percent), Greece (2.3 percent), and Estonia (2.0 percent) spent at the levels NATO now seeks, according to the NATO secretary-general’s 2013 annual report.

**Saber Rattling**

NATO acted after Putin made a pointed speech Aug. 29 declaring, “I want to remind you that Russia is one of the most powerful nuclear nations. This is a reality, not just words.”

Nonetheless, the NATO actions stopped short of violating a nonbinding U.S. pledge made in the 1997 NATO-Russia Founding Act, Lee Feinstein, former U.S. ambassador to Poland, said in a Sept. 17 interview.

In the agreement, NATO promised to carry out its collective defense mission without “additional permanent stationing of substantial combat forces,” a provision that Russian President Boris Yeltsin interpreted as a binding commitment by NATO that the alliance would not permanently deploy combat forces near Russia. NATO took care to emphasize that the new force would not be permanently stationed close to Russia, said Feinstein, now dean of the School of Global and International Studies at Indiana University.

“NATO wants to leave open the possibility of a diplomatic solution,” he said. “This is not a return to the Cold War, but it is very destabilizing when Russia engages in nuclear saber rattling.”

At the NATO summit two years ago in Chicago, the allies debated and turned down a German proposal to reduce nuclear weapons in Europe, said Jorge Benitez, senior fellow at the Atlantic Council, in a Sept. 18 interview.

“With recent Russian aggression, the consensus to stick with the status quo has only been strengthened,” he said. “Now it would be much harder to reduce NATO’s nuclear deterrent.”—**JEFFERSON MORLEY**

Ukrainian paratroopers take part in military drills in the Zhytomyr region of the country on September 11.
A group of senior U.S. officials from the State, Energy, and Defense departments last month reiterated the Obama administration’s commitment to bringing the Comprehensive Test Ban Treaty (CTBT) into force, even as one of the officials made clear that the administration would not be sending the treaty to the Senate for approval in the near future.

Rose Gottemoeller, undersecretary of state for arms control and international security, said at a Sept. 15 event at the U.S. Institute of Peace that ratification of the CTBT would “help to enhance our leadership role in nonproliferation and strengthen our hand in pursuing tough actions against suspected proliferators. That is more important than ever in our current global environment.”

But she said the Obama administration “has no intention of rushing into this or demanding premature [Senate] action before we have had a thorough and rigorous discussion and debate.”

The current priorities, Gottemoeller said, are “education” and “a healthy, open dialogue” with senators, rather than setting a timeline.

The United States signed the CTBT in 1996, when the pact was opened for signature. The Clinton administration submitted the treaty to the Senate three years later. On Oct. 13, 1999, the Senate rejected the treaty by a vote of a 51-48. Treaty approval requires a two-thirds majority of the Senate.

Several speakers at the event, which was organized by the Arms Control Association, Green Cross International, and the Washington embassies of Canada and Kazakhstan, emphasized changes in the landscape since the 1999 vote. Energy Secretary Ernest Moniz declared that “[t]he world will be a safer and more secure place if nuclear testing is relegated to the pages of history” and said there had been “enormous progress” over the past 15 years on two key technical issues from the 1999 debate: ensuring the reliability of the U.S. nuclear stockpile and verifying that countries are not covertly violating their no-testing commitment.

With regard to the first point, Moniz said that the directors of U.S. national laboratories “believe that they actually understand more about how nuclear weapons work now than during the period of nuclear testing.”

The United States has not conducted a nuclear weapon test explosion since September 1992. To ensure the readiness of U.S. nuclear warheads, the Energy
Department has carried out a program known as stockpile stewardship to monitor, replace, and refurbish key components of the warheads in the nuclear stockpile.

Moniz also cited progress in the global verification system that the Comprehensive Test Ban Treaty Organization (CTBTO) is putting in place.

A 2012 report by a National Academy of Sciences committee said stockpile stewardship had been “more successful than was anticipated in 1999.” The report found that “U.S. national monitoring and the [CTBTO] International Monitoring System has improved to levels better than predicted in 1999.” (See ACT, April 2012.)

At the Sept. 15 event, Andrew Weber, assistant secretary of defense for nuclear, chemical, and biological defense programs, said the United States is “not even considering” a resumption of nuclear testing.

Nevertheless, he said, the U.S. government is not prepared to shut down its nuclear testing facilities in Nevada.

“I would expect that if we can get ratification and entry into force of the CTBT, those facilities would be closed. But there is a desire to keep at least a limited readiness until the treaty enters into force,” he said.

Weber is the staff director of the Nuclear Weapons Council, through which the Defense and Energy departments coordinate management of the U.S. nuclear weapons stockpile.

Under terms outlined in Annex 2 of the CTBT, 44 specified countries must ratify the treaty to bring it into force. The United States is one of eight countries on that list that have not ratified the pact. The other seven are China, Egypt, India, Iran, Israel, North Korea, and Pakistan. In her remarks, Gortenmoller reiterated the U.S. position that “there’s no reason for the remaining Annex 2 states to wait for the United States before completing their own ratification processes.”

In his closing remarks at the Sept. 15 event, CTBTO Executive Secretary Lassina Zerbo said that although it is important to be patient in the effort to bring the CTBT into force, “we have to be mindful of those who have signed and ratified this treaty long ago and have been waiting for its entry into force.”—SHERVIN TAHERAN

The United States conducted the Storax Sedan test in Nevada on July 6, 1962.
Australia, India Sign Uranium Deal

Australia and India signed a civilian nuclear cooperation agreement in New Delhi last month that will allow India to purchase uranium from Australia.

Australian Prime Minister Tony Abbott and Indian Prime Minister Narendra Modi announced the deal Sept. 5 during Abbott’s visit to India. Modi hailed the agreement as a “historical milestone” in the relationship between the two countries.

A description of the agreement released by Modi’s office said the agreement will “promote cooperation in the field of peaceful uses of nuclear energy” and that Australia will provide “long-term reliable supplies of uranium” to India. The text of the agreement has not been released.

Abbott said India has an “impeccable” nonproliferation record and that Australia had received commitments from New Delhi that the uranium supplied to India would be used for civilian purposes and not the development of nuclear weapons.

Australia and India began negotiations on the agreement more than two years ago, after Australian Prime Minister Julia Gillard proposed lifting the country’s ban on uranium sales to India in 2011. Australia’s Labor Party voted in favor of the proposal in December 2011. (See ACT, January/February 2012.)

Australia, one of the world’s largest producers of uranium ore, is a party to the Treaty of Rarotonga, which established a nuclear-weapon-free zone in the South Pacific. Under the treaty, parties are obligated to ensure that nuclear technology and materials are exported only to countries “subject to the safeguards required by Article III.1” of the nuclear Nonproliferation Treaty (NPT).

India is not a party to the NPT, but negotiated a limited safeguards agreement with the International Atomic Energy Agency (IAEA) in 2008. This means that the IAEA has access to some but not all of India’s nuclear facilities.

India’s safeguards agreement helped pave the way for an exemption from the rules of the Nuclear Suppliers Group in 2008 to allow the group’s member states, including Australia, to export uranium and other nuclear goods to India. The rules of the voluntary regime generally prohibit nuclear exports to countries that are outside the NPT.

In July of this year, India ratified an additional protocol to its safeguards agreement, which Australia said was a precondition for any agreement.

The additional protocol, which India negotiated with the IAEA in 2009, is a voluntary measure that does not include many of the key provisions included in the IAEA Model Additional Protocol. It does not give the IAEA the authority to inspect undeclared facilities or require India to report on all of its nuclear fuel-cycle research and development. (See ACT, April 2009.) Australia’s Liberal Party opposed lifting the ban on sales to India in 2011 in part because India’s additional protocol does not meet the standards of full-scope safeguards required under the Treaty of Rarotonga.

In addition to mining its own uranium ore, India imports natural uranium from Russia, Kazakhstan, Mongolia, and Namibia.

India also is negotiating a nuclear cooperation with Japan. The talks were interrupted by the accident at Japan’s Fukushima Daiichi nuclear power plant in March 2011, but resumed in May 2013.

As part of any agreement, Japan has said it wants India to sign the Comprehensive Test Ban Treaty and pledge not to reprocess spent nuclear fuel produced using technology or materials obtained from Tokyo. Reprocessing produces plutonium, which can be used in nuclear weapons.—KELSEY DAVENPORT
Bonnie Jenkins is coordinator of threat reduction programs at the U.S. Department of State, which gives her one of the most diverse portfolios in the arms control field. She works on chemical, biological, radiological, and nuclear threats on a daily basis.

Arms Control Today spoke with her in her office in Washington on September 17.

The interview, conducted by Jefferson Morley, has been edited for length and clarity.

Where did you grow up?
The Bronx, New York. I went to the Spence School in New York City. Then I went to Amherst College. I have two master's degrees. One is in public administration, and one is in law, and I have a Ph.D. in international relations. I guess you could say I really liked school.

What propelled you into arms control?
An interest in government. I've always wanted to do government work, whether it was New York City or New York state, which is where I went to law school [at Albany Law School], and then to go into the federal government. I always wanted to be in Washington.

But I really got into [arms control] totally by accident. I was a Presidential Management Intern. I was at one of my rotations at the Pentagon in their legal office. I went to a meeting with one of the lawyers, a backstopping meeting. The interagency [group of staffers] gets together and prepares talking points and detailed directions for those overseas who are actually negotiating the treaty [in question]. I was so fascinated. It just opened up a whole new world to me.

Why?
I was in the reserves at the time. I was in the Air Force and switching to the Navy. [The work] was high level. I wanted to do things to help people and to improve life. It couldn't get any higher than that in terms of being strategic, in terms of helping not just the United States, but also the global community.

What's the thing that you've been part of that you're most proud of?
I think the nuclear [security] summit [of 2012]. The process of having a vision and implementing it through the process of the interagency [discussions] and then being able to work internationally. For example, we had an agreement with Japan that moved a lot of the nuclear material out of the country.

What do you say to young people thinking about a career in arms control?
It really can be what you want to make of it. There’s a lot of different actors in this area, so you won’t get bored too fast. And, if you are lucky, you have a president who cares about it. If not, it’s not as much fun.
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