

SQUARING THE NONPROLIFERATION CIRCLE

William Tobey

“Today, the Cold War has disappeared but thousands of [nuclear] weapons have not. In a strange turn of history, the threat of global nuclear war has gone down, but the risk of a nuclear attack has gone up. More nations have acquired these weapons. Testing has continued. Black market trade in nuclear secrets and nuclear materials abound. The technology to build a bomb has spread. Terrorists are determined to buy, build or steal one.”¹ So said President Barack Obama in 2009, discussing the greatest threat he sees confronting the United States.

Now, five years after he uttered those words, it is worth evaluating the effectiveness of his policies to stem the threats of nuclear proliferation and terrorism. Are we safer from a nuclear detonation now than we were five years ago?

Defining the threat

The threats of nuclear proliferation and terrorism are distinct, but related.

For over fifty years, American presidents have worried about the spread of atomic weapons. John F. Kennedy warned that by the 1970s, his successor might face more than two dozen states so armed.² His dire prediction proved unfounded; just nine states possess nuclear weapons today. Moreover, the last twenty-five years have seen the number of such states hold steady, with North Korea added to the list, but South Africa renouncing its nuclear weapons. Belarus, Kazakhstan, and Ukraine also gave up the nuclear weapons they inherited upon the dissolution of the Soviet Union. More states have abandoned serious nuclear weapons programs than have brought them to fruition. The Nonproliferation Treaty has proven remarkably durable.



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On the other hand, a small number of states—North Korea, Iran, and Syria—have violated their Safeguards Agreements under the Nonproliferation Treaty, and done so in determined efforts undertaken over many years and at great cost. Thus, the proliferation threat is acute, but limited.

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Some warn that if proliferation continues, it will trigger a cascade of new nuclear states. By this logic, if Iran gets the bomb, so too will Saudi Arabia, Turkey, and Egypt. Certainly it would be in Riyadh’s, Ankara’s, and Cairo’s interests to convince U.S. policymakers that such would be the case, if only to redouble American efforts to halt the Iranian nuclear program. History, however, would argue otherwise. China’s bomb did not force Japan to follow suit, and neither so far, has North Korea’s.

In contrast to the proliferation threat, however, the specter of nuclear terrorism has grown in recent years. Three factors drive today’s nuclear terrorism threat.

First, we face terrorist groups with unlimited objectives. In 1986, a now-declassified U.S. National Intelligence Estimate of “The Likelihood of Nuclear Acts by Terrorist Groups” concluded that, while some terrorist groups possessed the skills necessary to detonate a nuclear explosion if they obtained a weapon or sufficient fissile material, they were unlikely to do so, because it would defeat their political objectives.³

Today, in al-Qaeda and other groups, we face foes with no such compunctions. They seek to inflict as much pain as possible. The wreckage of the World Trade Center in New York and the school at Beslan, Russia testify starkly to this intent. Indeed, al-Qaeda, Aum Shinrikyo, and North Caucasus terrorist groups have all contemplated the use of nuclear weapons and, unfortunately, there is little reason to conclude that this list is closed.⁴ One might counter that Osama bin Laden is dead and al-Qaeda is disrupted, but the key figures within the organization’s nuclear effort remain at large.

Second, nuclear weapons-related know-how is more widespread than ever before. Once at the cutting edge of science, nuclear weapons technology is now 70 years old. Tens of thousands of individuals in more than nine countries have gained access to nuclear weapons design information. There is more computing power in an iPhone than existed on the Los Alamos Mesa in 1945. Computer aided design and manufacturing equipment enables precision machining all over the world. Moreover, terrorists improvising a nuclear device do not need to design to the same standards of safety, security, and reliability that state programs would require.

Third, highly enriched uranium and separated plutonium have proven vulnerable to theft. Over the past two decades, intelligence and law enforcement officials have made some twenty seizures of weapons-grade fissile material outside of authorized control.⁵ These include recent incidents in 2003, 2006, 2010, and 2011. While none of the examples involved sufficient material to construct a weapon, they are of serious concern because in many cases the material was advertised as a sample of a larger quantity for sale, and the seizures constitute physical proof of security failures at nuclear storage facilities.

Thus, sophisticated groups have known means, motive, and opportunity to commit acts of nuclear terrorism. The threat, therefore, is urgent and real.

The scorecard

So, just how well has the Obama administration done in addressing the threats of nuclear proliferation and terrorism? The record is decidedly mixed.

North Korea

When the Obama administration took office, Pyongyang's plutonium production reactor at Yongbyon was shut down and U.S. experts were on site to monitor activities there. Within two months, the North expelled the U.S. experts and in May 2009 conducted a second nuclear test. In March 2010, North Korea sank the South Korean vessel *Cheonan* in an unprovoked attack, and later that year, shelled South Korea's Yeonpyeong Island. In November 2010, North Korea revealed a previously covert uranium enrichment facility at Yongbyon to former Los Alamos National Laboratory Director Siegfried Hecker.⁶ In March of 2012, North Korea scuttled the "Leap Day" agreement to trade food aid from the United States for a moratorium on uranium enrichment and missile tests in the DPRK. In February 2013, North Korea conducted a third nuclear test, and less than a year later, the U.S. Director of National Intelligence confirmed that North Korea had restarted its plutonium production reactor at Yongbyon.⁷ Thus North Korea is producing both plutonium and enriched uranium.

The Obama administration has described its policy toward North Korea as "strategic patience." There have been no serious negotiations since the Leap Day accord failed two years ago. Administration officials claim to see greater willingness on the part of Beijing to pressure Pyongyang, but if such is the case, it has had no discernible

effect on the progress of North Korea's nuclear weapons program.

This state of affairs is not new. North Korea's nuclear program has proven impervious to U.S. policy for decades. Washington has tried bribes and sanctions, diplomacy and threats, soft and hard approaches. Nothing has worked. Invariably, Pyongyang violates its agreements after collecting whatever political and economic benefits it can scavenge from the banquet of multilateral talks. The blame for this situation rests squarely in the North. Yet, it is also true that the policies of the Obama administration have done little to retard Pyongyang's proliferation efforts. On nuclear testing, uranium enrichment, plutonium production, and long-range missile testing, North Korea has made substantial progress since President Obama took office. There is now no check—legal, political, or otherwise—on North Korea's nuclear weapons activities.

Syria

In September 2007, Israeli warplanes bombed a plutonium production reactor that was under construction near the Syrian city of al-Kibar. Over the next several months, Syria leveled the rubble, scraped away soil that contained evidence of the reactor, and built a new edifice on the site. Despite international opprobrium and efforts by the International Atomic Energy Agency (IAEA), Damascus successfully stonewalled attempts to learn more about its nuclear program. The IAEA reached a dead end in May 2011.⁸ By then, the first flames of civil war were flickering under the Assad regime, and no serious attempt at further progress on investigating the Syrian nuclear program has been made since.

In the summer of 2013, small-scale chemical weapons attacks by Syrian government forces escalated. On August 21, 2013, Syrian forces launched a chemical weapons attack near Damas-

cus that killed hundreds and wounded thousands of civilians. The Obama administration vacillated over whether or not to launch air strikes to deter further such attacks. Eventually, Russia stepped in, pouncing on a seemingly off-hand remark by U.S. Secretary of State John Kerry that the use of force could be avoided if the Assad government were to give up its chemical weapons.

Unfortunately, while there has been progress on the tactical goal of removing Syria's chemical weapons arsenal, it has come at the cost of strategic defeat, for the Administration's top goal previously had been the removal of the Assad regime.

In late January 2014, U.S. Ambassador Robert Mikulak lambasted Syria's compliance with the agreement, noting that only four percent of priority one chemicals declared by Syria had been removed. He also complained of a "bargaining mentality" in Damascus, whereby Syria wheedled for international donations of equipment, while complying only grudgingly.⁹ Since then, the pace of chemical weapons removal from Syria has improved, and may now account for almost half of declared stocks, although only about a third of the priority one chemicals appear to have been shipped overseas.¹⁰

Unfortunately, while there has been progress on the tactical goal of removing Syria's chemical weapons arsenal, it has come at the cost of strategic defeat. The Administration's top goal had been the removal of the Assad regime. But the agreement on chemical weapons removal made Assad a partner, required his cooperation, and undermined any appetite in the international community for concerted action to remove him.

Moreover, it strengthened Assad's position within Syria, as he was able to say to friends and foes alike that he had stood up to the United States, taken the worst that Washington had to offer, and remained standing.

The full dimensions and ultimate fate of Syria's nuclear program remain unresolved. The reactor at al-Kibar is gone, but any facilities or plans for fuel handling and reprocessing and weaponization remain undisclosed. On chemical weapons, progress has been made on removal of declared stocks, but it is far from clear that Syria will be fully disarmed of such weapons. Moreover, those weapons helped to assure the Assad regime's continued hold on power.

Iran

When the Obama administration took office, Iran was operating 3,936 centrifuges to enrich uranium to about 3.5 percent U-235. These machines had produced 1,010 kg of low enriched UF₆. This work was done at a declared facility near Natanz.¹¹

Today Iran has 9,166 centrifuges working to enrich uranium and has produced 11,091 kg of 3.5 percent enriched UF₆.¹² Moreover, a previously covert deep underground enrichment facility near Qom was discovered and later revealed by the leaders of France, the United Kingdom, and the United States. Iran also began enriching to nearly 20 percent U-235—accomplishing nine-tenths of the work necessary to make weapons-grade material. Thus, Iran has more than double the operating enrichment capacity and more than ten times the amount of enriched material than was the case when President Obama took office. Indeed, for most of the period between 2009 and 2013, the Iranian nuclear program not only expanded, it accelerated.

In November 2013, Iran and six major powers reached a six-month renewable interim agreement which

freezes and reverses some elements of Iran's nuclear program—in particular requiring downblending or conversion to a form ill-suited to further enrichment of Iran's 20 percent enriched UF₆ and suspending further production of such material. In return, Iran has received limited relief from economic sanctions.

Although, the deal was immediately and simultaneously hailed as historic and denounced as an historic mistake, in reality, it is likely neither. Instead, it is akin to a standstill agreement, while the more difficult negotiations over a broader deal take place.

Whether a lasting comprehensive agreement can be reached remains an open question. Russia's aggression against Ukraine could well complicate the negotiations, as Tehran may now look upon Moscow as a more reliable shield against further sanctions. In that regard, Iran's best alternative to a negotiated agreement probably improved because of the Ukraine crisis.

There is, however, little doubt that the Iranian nuclear program advanced substantially during the first five years of the Obama administration. The White House would counter that Tehran has paid a severe economic price because of banking and oil trade sanctions, but there is no evidence that those sanctions slowed the Iranian program until the interim deal. The combination of large stocks of low-enriched uranium and a much larger centrifuge enrichment capacity means that Iran has shortened substantially the amount of time it would need to produce enough fissile material for a nuclear weapon.

Nuclear security and nuclear terrorism

A major priority of the Obama administration has been to improve the security of nuclear weapons and weapons-usable materials to prevent them from falling into the hands of terrorists.

Putting his substantial personal prestige on the line in 2010, President Obama hosted the Washington Nuclear Security Summit—the largest gathering of world leaders in the United States since the founding of the United Nations. Subsequent meetings were held in Seoul in 2012 and The Hague in 2014. The final Nuclear Security Summit will be held in 2016 in the United States.

The Summits have had several advantages. They have drawn the attention of world leaders to a vital issue—one over which they should take personal responsibility. They served as forcing functions to cut red tape and facilitate actions like converting research reactors from highly enriched uranium fuel to low-enriched material. They promote national commitments to specific tangible actions to improve nuclear security. And they help to build support for institutions like the International Atomic Energy Agency and the World Institute for Nuclear Security.

There is little question that the Summits have broadened the scope and accelerated the pace of actions to improve security over material that could be used by terrorists to commit a nuclear act. Dozens of national commitments have made tangible improvements. There have, however, also been disappointments. There is still no agreed minimum standard for protecting material that could be made into a nuclear weapon. A joint commitment to strengthened nuclear security shepherded by the three Summit hosts, the Netherlands, the ROK, and the United States, found 35 subscribers, but among those refusing to join were Russia, China, India, Pakistan, Belarus, and South Africa—countries possessing roughly half of the nuclear weapons and weapons-grade fissile material that exist in the world.

Apart from the Summits, the United States and Russia renegotiated the agreement that is the legal basis for coop-

erative threat reduction efforts. While a revision was necessary to take into account changed economic and security circumstances in Russia, the new agreement is much narrower in scope, essentially excluding work with Russia's Ministry of Defense. Perhaps reflecting this new working environment, the Obama administration's latest budget proposal would cut the U.S. government's largest nonproliferation program by roughly a quarter—a steep decrease that would seem at considerable variance with President Obama's personal interest in nuclear security.

Declarations against interest

Moreover, although policies to prevent nuclear proliferation have enjoyed considerable attention, albeit with mixed success, some Administration choices have undermined their nonproliferation objectives. Two areas in particular stand out: choosing other foreign policy priorities over nonproliferation objectives, and undermining extended deterrence.

While “leading from behind,” American policy to support rebels in Libya with air strikes almost certainly sent a message to other dictators that it is dangerous to relinquish nuclear and chemical weapons programs, and that if you are foolish enough to do so, you can expect little goodwill and no mercy. Similarly, if nothing more is done to defend the 1994 Budapest memorandum pledging security assurances to and respect for the territorial integrity of Ukraine in exchange for Kiev ceding control of its inherited nuclear weapons, that pernicious lesson will only be reinforced.

In a paradoxical respect, President Obama's 2009 Prague speech undermined his own efforts to stem nuclear weapons proliferation. In that address, he called for a world free of nuclear weapons. By doing so, he caused policymak-

ers among our allies to question the U.S. commitment to extended deterrence. A whispered debate has begun in South Korea, Japan, and the Middle East over whether or not continued reliance on the U.S. nuclear forces to deter aggression is a sensible security policy, and whether an independent nuclear deterrent is necessary to address threats from North Korea and Iran. Extended deterrence has successfully helped to maintain peace and stability for decades, but it is under more stress now than ever before.

President Obama's highest national security priority was to prevent nuclear proliferation and terrorism. His policies have enjoyed only mixed success. Matters are undeniably worse in North Korea. In Syria, a tactical victory may still be possible, with the removal of declared stocks of chemical weapons, but it appears to have come at the cost of strategic defeat, the continuance of the Assad regime. Iran has made enormous progress in expanding its nuclear capabilities, and while an interim agreement has temporarily checked that momentum, it remains to be seen whether or not a comprehensive deal is possible. Nuclear security is better today than it was five, ten, fifteen, or twenty years ago, but the mission is still not complete, and instead of cutting budgets by 25 percent, U.S. efforts should be redoubled. This is not an enviable record for the Administration's highest national security priority.



1. President Barack Obama, Remarks in Hradcany Square, Prague, Czech Republic, April 5, 2009, http://www.whitehouse.gov/the_press_office/Remarks-By-President-Barack-Obama-In-Prague-As-Delivered.
2. President John F. Kennedy's News Conferences, News Conference 52, March 21, 1963 <http://www.jfklibrary.org/Research/Research-Aids/Ready-Reference/Press-Conferences/News-Conference-52.aspx>.

3. Director of Central Intelligence, "The Likelihood of Nuclear Acts by Terrorist Groups," National Intelligence Estimate 6-86, April 1986, 1, <https://www.documentcloud.org/documents/359470-5-nie.html>.
4. Matthew Bunn, et al., *The U.S.-Russia Joint Threat Assessment of Nuclear Terrorism* (Cambridge, Mass.: Belfer Center for Science and International Affairs, Harvard Kennedy School, June 6, 2011), 23-27, <http://belfercenter.ksg.harvard.edu/files/Joint-Threat-Assessment%20ENG%2027%20May%202011.pdf>.
5. William Tobey, "Planning for Success at the 2014 Nuclear Security Summit," Stanley Foundation *Policy Brief*, December 2013, 2-3, <http://www.stanleyfoundation.org/publications/pab/TobeyPAB1213a.pdf>.
6. Siegfried Hecker, "A Return Trip to North Korea's Yongbyon Nuclear Complex," Center for International Security and Cooperation, Stanford University, November 20, 2010, <http://iis-db.stanford.edu/pubs/23035/HeckerYongbyon.pdf>.
7. "North Korea Restarted its Yongbyon Nuclear Reactor Says Intelligence Official," Associated Press, January 30, 2014, <http://www.scmp.com/news/asia/article/1417295/north-korea-restarted-its-yongbyon-nuclear-reactor-says-us-intelligence>.
8. "Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic," International Atomic Energy Agency, GOV/2012/42, August 30, 2012, http://isis-online.org/uploads/isis-reports/documents/Syria_report--August_30_2012.pdf.
9. Robert Mikulak, "Statement to the 38th Meeting of the OPCW Executive Council," January 30, 2014, <http://www.state.gov/t/avc/rls/2014/220783.htm>.
10. "Almost Half of Syria's Chemical Weapons Removed—OPCW," BBC, March 20, 2014, <http://www.bbc.com/news/world-middle-east-26662801>.
11. "Implementations of the NPT Safeguards Agreement and Relevant Provisions of Security Council Resolutions 1737 (2006), 1747 (2007), 1803 (2008) and 1835 (2008) in the Islamic Republic of Iran," Report by the Director General, International Atomic Energy Agency, February 19 2009, 1-2, <http://www.iaea.org/Publications/Documents/Board/2009/gov2009-8.pdf>.
12. David Albright, Christina Walrond, and Andrea Stricker, "ISIS Analysis of IAEA Safeguards Report," Institute for Science and International Security, February 20, 2014, http://www.isisnucleariran.org/assets/pdf/ISIS_Analysis_IAEA_Safeguards_Report_20February2014-Final.pdf.

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