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# Stopping Proliferation Before It Starts

## How to Prevent the Next Nuclear Wave

*Gregory L. Schulte*

INTERNATIONAL EFFORTS to stem the spread of nuclear weapons typically focus on thwarting the atomic ambitions of North Korea and Iran. This, however, is a game that is unlikely to be won. North Korea has built and tested nuclear weapons, and Iran is on the threshold of being able to build them. The leaders of both countries remain unmoved by international condemnation and pressure. To them, the prestige, security, and influence presumed to derive from nuclear weapons seem more compelling than the weak penalties and uncertain inducements of multilateral diplomacy. Another round of sanctions or talks is unlikely to change this calculus.

Rather than fixating on the proliferation they are unable to prevent, concerned countries should pay more attention to preventing proliferation to states that have not yet decided to build nuclear weapons, particularly states in the Middle East. Such a strategy will require that the international community improve its ability to detect suspect

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GREGORY L. SCHULTE was U.S. Ambassador to the International Atomic Energy Agency and the United Nations in Vienna from 2005 to 2009. He wrote this essay while a Senior Visiting Fellow at the Center for the Study of Weapons of Mass Destruction at the National Defense University. The views expressed here are his own. For an annotated guide to this topic, see "What to Read on Nuclear Proliferation" at [www.foreignaffairs.com/readinglists/nuclear-proliferation](http://www.foreignaffairs.com/readinglists/nuclear-proliferation).

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activities, strengthen the tools to disrupt networks for transferring nuclear technology, and actively dissuade other countries from going nuclear by enhancing those countries' security and devaluing nuclear weapons.

Since it is likely too late to reverse the nuclear ambitions of North Korea and Iran, the United States and its partners should also stop fixating on negotiations with them. Instead, they should concentrate on containing the regional effects of these states' nuclear programs while creating the conditions for rolling them back should future leaders prove more responsive to inducements and pressure.

International efforts can disrupt and delay the proliferation of nuclear weapons, but it is difficult to deny the ambitions of leaders dead set on acquiring them. This is why efforts to prevent the spread of nuclear weapons should look ahead to preventing the next generation of nuclear proliferation.

#### UNDER COVER

DETECTING SECRET nuclear activities has proved to be a nearly impossible task. It took years before national intelligence agencies pieced together an understanding of the Pakistani scientist A. Q. Khan's illicit nuclear-trafficking network. Libya's work on uranium enrichment was unknown until a ship carrying components provided by the Khan network and headed for Libya was stopped at sea and the Libyan leader Muammar al-Qaddafi decided to come clean. Syria's secret nuclear reactor was not discovered until five years after construction began.

The track record of the International Atomic Energy Agency, the organization responsible for verifying the peaceful use of nuclear technology, is not encouraging. Not only did the agency fail to detect Libya's and Syria's clandestine projects; it also failed to uncover Iran's uranium-enrichment facilities at Natanz and near Qom. (An Iranian dissident group revealed the first, and U.S. and allied intelligence agencies uncovered the second.) The IAEA's professional and highly competent inspectors are not to blame; rather, the agency's effectiveness is limited by its dependence on open-source information and the cooperation of member states. In most cases, it cannot enforce access

to suspected sites and sensitive information but must instead rely on the goodwill of both those subjected to inspections and those with good intelligence.

The difficulties of detection were illustrated by Syria's construction of a secret nuclear reactor from around 2001 until 2007, when it was destroyed by an Israeli air strike. Syria had been known to possess offensive chemical weapons since the 1980s, but most analysts had concluded that the Syrian leadership had decided against seeking nuclear weapons because of the expense and technical difficulty involved. It thus came as a surprise when, in 2006, Syria was found to be building a nuclear reactor with no obvious purpose other than the production of plutonium for nuclear weapons.

Even today, the genesis of the project and the motivations behind it remain a mystery. Was Syria building the reactor to enhance its prestige or its security? Was the project conceived by Bashar al-Assad, who had just become Syria's president, in 2000, as a way to bolster his position domestically? Countering proliferation is not just a matter of finding nuclear facilities; it also requires understanding how domestic and regional considerations can cause a country's leaders to seek the nuclear option.

The story of the Syrian reactor brought another surprise: North Korea's involvement in its design and construction. The reactor in Syria had the same design as the reactor in Yongbyon, which once produced plutonium for North Korea's nuclear weapons. Iran, North Korea, and Syria have long been known to run a very active military procurement network that trades in conventional weapons, including missiles and their associated technology. Now, nuclear weapons technology may be its latest commodity. In the past, countries concerned about proliferation only had to worry about nationally produced nuclear weapons. Today, they also need to look out for multinational endeavors.

Future success in detecting such activities will depend largely on the work of national intelligence agencies, such as the exceptional

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efforts of the U.S. intelligence community in uncovering Iran's second enrichment site, near Qom. Intelligence agencies need to build on their success with Qom and look beyond North Korea and Iran to countries that are candidates for the next generation of proliferation. They must also seek out not just facilities but also the motives, interest groups, and deliberations that could result in decisions to go nuclear.

The IAEA's inspectors can also play an important role in deterring a new round of proliferation. They have routine access to facilities and information that are not available to others, and they can sometimes connect dots that individual countries cannot. In the case of Iran, IAEA inspectors have been able to piece together a mosaic of incriminating information about its weaponization activities, based on data from multiple countries.

Whereas IAEA inspectors once played the role of accountants, recording nuclear material at known nuclear facilities, they are increasingly required to act as detectives, looking for suspicious patterns in information from multiple sources. To assist in this work, the U.S. Department of Energy has launched the Next Generation Safeguards Initiative, a plan to develop new techniques for "fingerprinting" nuclear materials, new approaches for monitoring nuclear facilities, and new tools for integrating and analyzing information from multiple sources. The IAEA should be a primary beneficiary of this promising effort.

The IAEA's ability to detect clandestine activities would also be strengthened if governments increased the routine sharing of proliferation-related information with the agency's inspectors. Member states can be reluctant to share information derived from sensitive sources and methods. Such reluctance could be overcome by arrangements to protect the information and provide assurances that it will be used to advance—and not politicize—IAEA investigations. That said, the most sensitive information is not always the most useful. Mundane data, such as information that a country has sought to import sensitive technology, may provide important leads to the agency's inspectors.

Success in detecting future proliferation also depends on the authority granted to the IAEA. Syria built its secret nuclear reactor at

desert location far from the facilities it had declared to the IAEA under its Safeguards Agreement, which places facilities and material declared to the agency under the scrutiny of its inspectors. The eventual revelation of the Syrian reactor reinforced a lesson already taught by the experiences of Iran, Iraq, and North Korea: determined proliferators are likely to conduct their clandestine activities at undeclared sites. This underscores the importance of countries' signing and implementing the IAEA's Additional Protocol, which commits states to provide access and information beyond their basic responsibilities under their Safeguards Agreements. A state with the Additional Protocol in force would find it harder to hide a clandestine program and would need to worry more that one would be detected.

The Obama administration, as did the George W. Bush administration, has supported international efforts to make the Additional Protocol a universal standard. Over 120 countries have signed it, but some countries that possess or are planning significant nuclear programs, such as Brazil and Egypt, have refused to do so. These countries' officials explain their reticence in various ways: Brazil's profess a desire to protect commercial information; Egypt's say they are unwilling to accept additional obligations while Israel remains outside the Nuclear Nonproliferation Treaty. Both governments, however, have expressed support for U.S. President Barack Obama's vision of a world without nuclear weapons. Obama should explain to these leaders that this vision is ephemeral at best without a strong verification regime, of which the Additional Protocol is a necessary part.

The Additional Protocol model was introduced over ten years ago, before the revelations about clandestine nuclear activities in Iran, Libya, and Syria; the Khan network; and North Korea's help with Syria's covert reactor. It is time for the IAEA to start developing a next-generation protocol, one that broadens the scope of the nuclear-related activities that fall under the agency's scrutiny. This protocol should give IAEA inspectors more insight into activities related to weaponization—the fashioning of fissile material into nuclear explosive devices and their integration onto delivery systems. This would be

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a complex undertaking, since many member states would be reluctant to let the IAEA pry into their military activities.

In order to deter countries contemplating illicit nuclear programs, the IAEA must have not only the ability to detect nuclear activities but also the willingness to report them to the UN Security Council. The last director general of the IAEA, Mohamed ElBaradei, refused to characterize either Syria's secret reactor or Iran's enrichment facility near Qom as a violation of the IAEA's Safeguards Agreement with the country. He also declined to use the authority of the Security Council or the existing provisions for special inspections to require these states to open up all their sites for inspection. Instead, he sought to persuade them to cooperate voluntarily. This encouraged Iran and Syria to interpret their safeguards obligations narrowly and to minimize their cooperation with IAEA inspectors. Noncompliance became a way to avoid the scrutiny of inspectors, and selective cooperation a way to avoid international sanction.

The IAEA is a technical verification agency, not a venue for nuclear diplomacy. It should not allow political considerations to override its verification role. If a country is not cooperating, the IAEA must report the noncompliance and any violations to the Security Council. There are signs that the agency is returning to its technical role: Yukiya Amano, who took over as director general in late 2009, has issued reports on Iran and Syria that are refreshingly forthright in stating the inspectors' concerns and conclusions about the two countries' suspect activities. Preventing a new round of proliferation requires an IAEA that is technically focused, technically competent, and well supported by its member states.

#### STOPPING THE SPREAD

IMPROVED DETECTION abilities can help prevent the next generation of nuclear proliferation. But they may not be enough, particularly if the leaders of the countries involved view nuclear weapons as essential to their countries' security or their regimes' survival and are willing to risk being caught. As a result, the United States and like-minded countries must step up their efforts to obstruct the various paths to proliferation, including restricting the spread of bomb-making technology.

*Stopping Proliferation Before It Starts*

The most sensitive bomb-making technologies involve the enrichment of uranium and the extraction of plutonium from spent nuclear fuel. Uranium enrichment and plutonium reprocessing can be used for civilian nuclear power, but they can also be abused to produce material for a bomb. Restricting the spread of these technologies becomes more important, and potentially more difficult, as more countries look to invest in nuclear power. In 2004, President George W. Bush proposed that the Nuclear Suppliers Group, a 46-member organization dedicated to controlling the export of sensitive nuclear technology, agree to prohibit the transfer of technologies for uranium enrichment and plutonium reprocessing. Yet despite over half a decade of deliberation, the NSG has failed to reach an agreement on this sensible restriction—and even on a less stringent approach under which member states would consider transfers on a case-by-base basis.

The NSG has evolved from a restricted cartel of nuclear technology suppliers to a large collection of suppliers, recipients, and other interested participants, including countries opposed to nuclear power. Rather than finding ways to control sensitive technologies, the NSG has become bogged down in endless debates about abstract rights and subjective criteria. Some participants, even close U.S. allies with sterling non-proliferation credentials, have shown more interest in facilitating trade in sensitive technologies than in preventing proliferation.

Unless the NSG can reach a consensus on these restrictions, the United States should redirect its efforts toward the members of the group that possess these sensitive technologies. Washington has already taken a step in this direction through the G-8, which has agreed to implement rules that are only in the draft stage at the NSG, pending approval by all 46 members. One or two countries should not be allowed to block international efforts to contain the spread of bomb-making technology.

The United States should also gather like-minded nuclear suppliers to review whether their collective trade restrictions could be more effectively targeted at the next generation of potential

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Eliminating nuclear weapons is an admirable aspiration, but it is not a safe strategy for the present.



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proliferators. This group should assess whether existing lists of sensitive exports, monitoring mechanisms, and information-sharing arrangements are adequate to disrupt nuclear black markets, such as the Khan network, or transnational nuclear enterprises, such as the recent cooperation between North Korea and Syria.

Another international effort to disrupt proliferation is the Proliferation Security Initiative, a program launched by President Bush and endorsed by President Obama to interdict illicit trafficking of weapons of mass destruction and missile technology. In 2003, multilateral interdiction efforts in the spirit of the PSI stopped a ship carrying nuclear equipment to Libya from the Khan network, thus helping expose the full extent of Libya's clandestine nuclear program and create the conditions for rolling it back.

Although the PSI has attracted an impressive number of adherents (95 at last count), it needs to be more vigorously implemented, and it should be targeted in particular at North Korea's proliferation activities. Moreover, some key countries remain outside, such as China, Indonesia, and Malaysia—all of which are well situated to interdict equipment and material leaving North Korea by sea. The PSI framework should also be used to disrupt not just the trade itself but also the financial networks that support it. That would make it easier for finance ministries around the world to put in place the type of targeted sanctions that the U.S. Treasury Department has used so effectively against proliferators.

#### THE ART OF DISSUASION

A COMPREHENSIVE APPROACH to nonproliferation should also seek to dissuade leaders from pursuing nuclear weapons capabilities in the first place, before they have made decisions that are hard to reverse or adopted policies of defiance that are hard to deflate. There are two sides to dissuasion: devaluing nuclear weapons as a source of national prestige and security and providing other means for a country to enhance its security, particularly in the face of a regional competitor that has acquired nuclear weapons.

Whether dissuasion works will depend on U.S. policies toward North Korea and Iran. The leaders of both countries hope that the

