Challenges for Pakistan’s Nuclear Security

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The attack last August against the Kamra military air base in Pakistan reignited concerns about the threat that terrorists could pose to the security of the Pakistani nuclear arsenal. There is no doubt that recent attacks on military targets in Pakistan have increased in number and boldness. So far, however, the targets of the attacks have not been military installations that contain nuclear weapons or components.

Yet, the confluence of increased terrorist activity in Pakistan, the country’s ongoing political instability, and the growing size of the Pakistani nuclear arsenal is increasing the challenge to Pakistan’s nuclear security. The number of facilities and people that produce and use sensitive nuclear materials and technologies in Pakistan is increasing, raising the bar for personnel screening and infrastructure protection. Last summer, there was a reported threat by the Taliban to attack the nuclear complex at Dera Ghazi Khan, a remote town in southern Punjab, but the attack failed to materialize.

Since 2001, Pakistan, cognizant of the terrorist danger, has taken a number of steps to improve the command and control system for its nuclear assets and the screening and training of employees in its nuclear enterprise. As with all security systems, constant vigilance and a culture of continuous improvement are important to deter and, if necessary, respond to threats.

The U.S. government has put forth a message of reassurance regarding Pakistan’s nuclear security. President Barack Obama and top administration officials have consistently said since 2009 that they have confidence that Pakistan takes its security mission seriously and that its physical protection and training are adequate and improving.[1] This is in part a result of collaboration between the Pakistani and U.S. governments on best practices for the security of Pakistan’s nuclear infrastructure. These interactions have led to better training and equipment.

Despite these assurances, a number of specialists around the world remain skeptical of the security steps that Pakistan has taken. There are several explanations for this perspective. One is that foreign experts and journalists have highlighted the danger when reporting on Pakistan’s nuclear program.[2] Also, within the country, the media, politicians, and anti-nuclear activists raised a number of questions about the ability of the Pakistani nuclear security establishment to protect and defend its nuclear assets against an intruding force in the wake of the Osama bin Laden raid at Abbottabad by U.S. special forces in May 2011.[3]

In an article written after a 2009 visit to Pakistan, former U.S. Department of Defense official Lawrence J. Korb recounted various doomsday scenarios for Pakistan and argued that “given the strategic location of Pakistan and the fact that it has nuclear weapons, it’s easy to see why some might embrace a worst-case scenario. But based on my visit, I don’t buy it at this time.”[4] Although made four years ago, his point is still valid; the situation on ground is not as bad as it may appear to distant observers.

Yet, there is much that the U.S. and other governments do not know about the Pakistani nuclear arsenal, despite closer cooperation, especially between the United States and Pakistan, over the past decade. The overarching reason for the recurring concerns is the prevailing internal security situation in Pakistan. The nightmare scenario is that, in the event of a political collapse in Pakistan,
things could spiral out of control and even the best training and equipment could not be relied on to keep terrorists away from Pakistan’s weapons.

Understandably, distant observers will find it difficult to accept the notion that the nuclear installations in Pakistan are islands of stability and security in the midst of a generally chaotic security and political environment, especially when so little information on Pakistan’s nuclear security regime is available. This is a major reason why the recent attacks on military bases have raised alarm about the security of Pakistan’s nuclear infrastructure.

The Kamra Air Base Attack

The Taliban attack in August 2012 on the Pakistani air force base at Kamra, northwest of Islamabad, made headlines in the international media and renewed concerns about the security of Pakistan’s nuclear weapons. Many news reports speculated about the presence of at least a part of the Pakistani nuclear arsenal being at the base. Despite the reporting, the Kamra base does not have nuclear weapons. A Pakistani government spokesman denied that any nuclear weapons were stored at the base, and U.S. military and diplomatic officials ruled out the possibility that the attack on the base posed any threat to nuclear weapons.

The August attack was the third on the Kamra base and the most threatening so far. The target of the first attack, in December 2007, was a school bus carrying children of base employees on a public highway outside the base. In the second attack, a suicide bomber blew himself up at the main entrance to the base.

The August attack was carried out by nine militants who breached the perimeter fence but could not penetrate much farther due to timely response by the security forces. All of the attackers were killed during the ensuing shoot-out.

The base houses a major aeronautical complex with facilities for production of avionics equipment and the overhaul and assembly of aircraft, including jet trainers and the JF-17 Thunder, which China and Pakistan jointly developed. At the time of the August attack, some aircraft with airborne warning and control systems were parked on a tarmac that suffered some damage from rocket-propelled grenades fired by the militants.

A recent attack by Afghan Taliban on Camp Bastion, a British military base in Afghanistan’s Helmand province, has proven that even a facility located in a desolate area and protected with some of the most sophisticated sensors can be penetrated. The attackers destroyed five aircraft worth millions of dollars at a base that some have described as the safest place on earth.

Pakistani air bases cover a large area protected by barbed wire fences, which are not too difficult for an organized and determined attacker to breach. The aircraft parked on the runway are soft targets that can be observed from a distance and hit with relatively unsophisticated weapons. In addition, it should be kept in mind that the objective of the suicide bombers is to cause maximum damage, not to seize equipment or materials.

Pursuing Nuclear Security

In an address at the United Nations last September, Pakistani Foreign Minister Hina Rabbani Khar said that her country takes nuclear security “very seriously.” Islamabad’s efforts in the 15 years since its 1998 nuclear tests give some support to that claim.

In February 2000, Pakistan announced the establishment of a National Command Authority (NCA), with the Strategic Plans Division (SPD) as its permanent secretariat. The responsibilities of the NCA include deploying and employing the nuclear force, coordinating Pakistan’s strategic organizations, dealing with arms control and disarmament issues, and overseeing implementation of export controls and the safety and security of nuclear installations and materials.

The NCA has a three-tiered structure with two committees. The Employment Control Committee and the Developmental Control Committee constitute the first tier, the SPD the second tier, and the three
services’ strategic force commands the third tier. The SPD is responsible for the daily management of Pakistan’s strategic assets, coordinating with all strategic organizations and overseeing the budgetary and administrative aspects of these organizations. The primary responsibility of the services’ strategic force commands is to exercise technical, training, and administrative control over the strategic delivery systems. Operational control, however, rests with the NCA.

Islamabad also established the autonomous Pakistan Nuclear Regulatory Authority (PNRA) in January 2001. In 2004, comprehensive export control legislation was promulgated, with control lists meeting the guidelines of the Nuclear Suppliers Group, Missile Technology Control Regime, and Australia Group, which covers exports that are potentially relevant to biological or chemical weapons. Since then, rules and regulations and administrative structures have been developed for the effective implementation of the export control law.[9]

In late 2007, an NCA ordinance was issued to regulate the functioning of strategic organizations such as the Pakistan Atomic Energy Commission (PAEC) and the Khan Research Laboratories, which have played a central role in Pakistan’s nuclear weapons program. The ordinance also specified criminal activities and the legal powers and procedures to deal with any infringements of the law. The ordinance was passed as an act of parliament in 2010.

From the perspective of nuclear security, however, the most significant organization is the security division of the NCA. The organization has grown exponentially over the years from a very modest beginning and is headed by a two-star general, who currently has 20,000 personnel under his command. This strength is projected to reach a total of 28,000 men in the next few years. The division is responsible for the physical security of all sensitive nuclear sites through a layered system of defense with inner and outer perimeters augmented by electronic sensors and counterintelligence teams. It screens all personnel inducted into any component of the strategic program in concert with other intelligence agencies in the country. It also administers an improved and rigorous Personnel Reliability Programme.

It is useful to recount some of the most significant developments of the NCA Security Division. Initially, the division’s security force comprised mostly retired military personnel. More recently, however, it set up a state-of-the-art training academy in Kalar Kahar, comparable to the U.S. Department of Energy’s National Nuclear Security Administration’s academy in Albuquerque, New Mexico. The new Pakistani academy provides specially selected Pakistani recruits with training similar to that given to the special forces. These recruits have become the backbone of the nuclear security force and gradually will replace most of the retired military personnel. Through field exercises and war games, Pakistan regularly tests the capabilities of the upgraded security force.

The SPD training academy also is going to house a mock nuclear facility that is being designed and built in collaboration with the PNRA. This will become a “center of excellence” for security forces training and, under the auspices of the International Atomic Energy Agency (IAEA), will offer training facilities to other countries.[10]

The security division also has constituted an elite response force and an emergency response center at its headquarters in Rawalpindi to deal with an emergency at any nuclear facility. It has installed radiation detection monitors at various entry and exit points. These portal monitors are in addition to the ones installed by the PNRA.[11]

Pakistan also has taken steps to improve nuclear safety. In his address to the annual IAEA General Conference in Vienna last September, PAEC Chairman Ansar Parvez said Pakistan had been “actively engaged in absorbing lessons” from the March 2011 accident at the Fukushima nuclear reactor complex in Japan. The PAEC has “identified a comprehensive set of safety retrofits” that are “in various stages of implementation,” he said.[12]

The PNRA has set up the School for Radiation and Nuclear Safety, where it holds regular courses, workshops, and tabletop exercises to train first responders in handling a radiation emergency. It includes the customs service and other border control agencies. The PNRA also has established a National Radiation Emergency Coordination Center at its headquarters in Islamabad and has put in place the national Nuclear Safety Action Plan to guide the organizations acting as first responders to
a nuclear or radiological emergency.

The Pakistan Institute of Engineering and Applied Sciences has introduced master’s degree-level courses with a specialization in nuclear safety, mainly, to train new PNRA personnel. Pakistan also has benefited from cooperation and exchanges of information on best practices with friendly countries, including the United States, and has maintained a vibrant, cooperative relationship with the IAEA.

**Participation in Global Efforts**

Despite an impressive inventory of actions, Pakistani efforts to provide information about all these developments domestically and internationally have not been adequate. This has contributed to the continued skepticism about Islamabad’s ability to protect its nuclear assets.

Yet, one avenue through which Pakistan has been able to play an active role in advocating for and taking action on global nuclear security issues is the nuclear security summit process, in which Pakistan is one of the more than 50 countries that have participated. There have been two nuclear summits, in Washington in 2010 and in Seoul in 2012. A third is planned for The Hague in 2014.

Participants at the summits endorsed a number of important steps, including President Barack Obama’s goal of securing all vulnerable nuclear material in four years. The national leaders who attended the summits underscored the importance of maintaining effective security over all nuclear materials on their territory; encouraged the conversion of reactors that use highly enriched uranium (HEU) to low-enriched uranium; and recognized the importance of the International Convention for the Suppression of Acts of Nuclear Terrorism and the Convention on the Physical Protection of Nuclear Material and its 2005 amendment. (The amendment would extend protection requirements beyond the original agreement, which covers nuclear material while in international transport, by expanding the coverage to apply to nuclear facilities and to materials in peaceful domestic use and storage.) Pakistan has acceded to the convention on physical protection but not to the 2005 amendment or the nuclear terrorism convention.[13]

Summit participants also supported full implementation of UN Security Council Resolution 1540, which requires all countries to enact legislation to prevent the proliferation of nonconventional weapons and their means of delivery, and recognized the continuing importance of the IAEA and its nuclear material security guidelines and activities. The participants also supported the actions of the Global Initiative to Combat Nuclear Terrorism (GICNT). Other ambitious objectives of the summits included the removal and disposal of nuclear materials no longer needed for operational activities and the minimization of the civilian use of HEU. The participants also agreed to consider plans to consolidate nuclear material at fewer national storage sites.

Pakistan has submitted four reports to the UN committee overseeing the implementation of Resolution 1540, thus meeting an international nuclear nonproliferation and security obligation that a number of countries have not met. Islamabad is an active participant in the GICNT, especially on issues related to nuclear forensics and efforts to upgrade the international community’s ability to detect nuclear and other radioactive materials in order to prevent nuclear trafficking.

At the Washington and Seoul summits, individual countries made commitments to improving domestic regimes for nuclear security. Approximately 80 percent of these national commitments were fulfilled between 2010 and 2012.[14] Pakistan did not make any unilateral commitments at the 2010 summit, but it did at the summit in 2012, when it pledged to open a nuclear security training center and signed the Joint Statement on Nuclear Security Training and Support Centers. The center is intended to serve as a regional and international hub for training in nuclear security; in the joint statement, Pakistan joined with 22 other countries in forming what will amount to an international network on that issue.

In Seoul, Pakistan also agreed to continue deploying portal monitors to detect special nuclear material as a means of impeding the illicit trafficking of nuclear and radioactive materials. In addition, it offered to provide nuclear safety and security assistance under IAEA auspices to interested states.
In its progress report at the Seoul summit, Pakistan noted its steps to improve export controls, secure radiological sources, and prevent nuclear smuggling. In these areas, it revised its national export control lists and operates mobile laboratories for technical assistance to law enforcement and first responders. Pakistan also reported that, under its renewed Nuclear Security Action Plan, originally established in 2006, it is upgrading the physical security at its 11 nuclear medical centers. Medical facilities utilize high-intensity radioactive sources that can be used in a “dirty bomb.”

Pakistan has taken a number of actions related to nuclear security and safety beyond those it pledged at the summits. It has intensified collaboration with the IAEA by joining “collaborating centers,” which are designed to standardize technology, disseminate information, and facilitate research and learning on a range of issues related to IAEA activities, including nuclear safety and security. It also is participating in the development of the IAEA Nuclear Safety Action Plan.

It has incorporated some of the lessons of the Fukushima accident, including holding an international seminar on nuclear safety and security and developing a radiation emergency response mechanism and a Nuclear Security Emergency Coordination Center. It also is considering a program for upgrading physical protection of civilian nuclear power plants.

It is not yet clear how the Pakistani steps on nuclear security and safety should be seen. On one hand, if they represent the limits of Pakistan’s movement toward transparency and cooperation, they are disappointing. On the other hand, they represent an evolution from Pakistan’s previous opaqueness, and that may lead to further progress.

Conclusion

Pakistan is located in a very dangerous neighborhood; it has a history of political instability; and terrorist activity in and around the country remains significant. Control of the nuclear program resides primarily with military authorities, which are not very transparent about nuclear security and weapons operations. There is only modest civilian oversight.

These distinguishing features make the security of the Pakistani nuclear weapons program and its infrastructure a global concern, which is unlikely to diminish anytime soon. As a result, all acts of terrorism in the country, especially those directed at military targets, are going to raise concerns and invite scrutiny and skepticism of official assurances of control.

Pakistan has taken its responsibility for nuclear security seriously. It has collaborated with the United States on best practices, training, and personnel screening. It is participating in international forums devoted to preventing nuclear terrorism and improving nuclear security. It has made strides domestically to improve the legal and regulatory system for preventing proliferation of sensitive materials and technologies. Not least, the authorities in Pakistan, the first Islamic country to possess a nuclear weapon, recognize that the nuclear weapons program is deeply intertwined with national identity and that security of its nuclear infrastructure is a top priority. Domestically or internationally, it cannot afford a loss of control. Yet, there is more that Pakistan can and should do to provide confidence to the international community that its nuclear program employs the highest level of safety and security.

First, there is the need to accept all international instruments that underpin the current nuclear security regime, including the nuclear terrorism convention and the 2005 amendment to the convention on physical protection. Also, as the Fukushima nuclear accident highlighted, the decision by any country, developed or developing, to remain insular and opaque on matters of nuclear safety and security can be harmful to that country and its neighbors.

Although the sovereign control of nuclear assets remains the dominant model at present, there is an increasing recognition that countries have an international responsibility to prevent the unauthorized release of radiation or the theft of materials from their facilities. Both dangers directly affect other countries. These concepts of sovereignty and international responsibility should not be in competition. Both are important and need to be balanced.
There should be a commitment to the highest levels of nuclear security at home and a willingness to provide nonsensitive information on these actions to the global community. This process could begin with the actions listed above, first as a voluntary activity and then evolving into a codified requirement for all countries over time. These steps offer the best combination of assurances and can improve international confidence in Pakistan’s nuclear security.

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ENDNOTES


6. An example is Walsh, “Pakistani Air Force Base With Nuclear Ties Is Attacked.”


10. Strategic Plans Division officials, conversations with Naeem Salik, Kalar Kahar, Pakistan, August 8, 2012.


13. Among states with nuclear weapons, France, Israel, North Korea, and the United States also have not ratified the International Convention for the Suppression of Acts of Nuclear Terrorism or the 2005 amendment to the Convention on the Physical Protection of Nuclear Material.
