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Meeting the Nuclear Security Challenge in Pakistan

Summary Report

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On February 21-22, 2008, government officials from the U.S. and Pakistan and non-governmental experts gathered in Washington, D.C. for a workshop organized by the Partnership for Global Security (PGS), titled **Meeting the Nuclear Security Challenge in Pakistan**. The event was organized in cooperation with Brig. Gen. (ret.) Naeem Salik, South Asia Visiting Scholar at the John Hopkins School of Advanced International Studies (SAIS) and supported by the U.S. National Nuclear Security Administration (NNSA). The key goals for the workshop were to allow experts to freely exchange views on critical nuclear security issues, to better understand the nuclear security structure in place in Pakistan and how it is evolving, and to offer the opportunity to discuss issues of concern. Panels were convened on vital nuclear security topics including radiological source security; export and border controls; the threat to Pakistan's nuclear assets; the role of technology controls in Pakistan's nuclear security future; and the media's role in shaping nuclear security perceptions.

Issue Highlights

Pakistan's Export Control System

Pakistan's export control system has evolved substantially over the last decade through indigenous efforts that have been informed by international best practices and cooperation with the United States. The Pakistan Export Control Act of 2004 harmonized and strengthened existing legal statutes and enforcement measures that dated back to 1950. The Act was created to increase the system's effectiveness and comply with international security standards, including the fulfillment of nonproliferation obligations under United Nations Security Council Resolution 1540. Article III of the Act established the Strategic Export Control Division (SECDIV) within the Ministry of Foreign Affairs (MFA) to develop and implement Pakistan's export control policy. An independent Oversight Board was also created to oversee the functioning of SECDIV and monitor the relevant export control laws that are under its jurisdiction. These organizations comprise the core of Pakistan's modern export control system.

The NNSA has engaged with the Pakistani government on the issue of export control. For example, it directly interacted with them approximately a half dozen times in the period prior to the passage of the 2004 Export Control Act. When the NNSA evaluates a country's technical capacity to implement effective export controls, there are three focus areas. The first area involves the ability to evaluate risks and variables in a way that leads to sound licensing judgments. The second area is how well export control specialists are able to communicate national commitments, concerns, and risks to industry so as to properly convey the importance of compliance with export control laws. The third area is the degree of engagement with, and training of, enforcement organizations, such as border patrols and port authorities, who are in a position to identify and intercept sensitive illicit commodities.

A practical assessment the SECDIV's effectiveness is premature at this point because it is only now entering the implementation stage. Once operating, SECDIV is poised to begin implementing the following duties: reviewing Pakistan's nuclear control lists, issuing licenses for nuclear and radiological items, and engaging in industry and media outreach efforts. Pakistan's National Control Lists are based on the European Union (EU) model and incorporate items controlled by the Nuclear Suppliers Group (NSG), Missile Technology Control Regime (MTCR), and the Australia Group. The lists are published, updated and periodically reviewed by SECDIV. SECDIV's first review and update will occur in 2008. Historically, the licensing of nuclear and radiological material has been done by the Pakistan Nuclear Regulatory Authority (PNRA), but the 2004 Act transferred this responsibility to SECDIV. To protect against the unauthorized transfer of sensitive intangible exports (blueprints, contracts, discs, etc.) and to support responsible trade, SECDIV will promote industry awareness of export limitations through seminars, workshops, and booklets; the creation of a website; and by engaging with commerce and trade associations. An issue to note, however, is that nearly all nuclear licenses in Pakistan are currently held by government controlled entities, and the country exports a limited number of controlled items. These facts have led to questions regarding how to measure the effectiveness of an export control system when only a very small percentage of licensees are outside of government control.

Controlling Pakistan's Diverse Borders

Pakistan has varied and expansive terrain and border types that present distinct challenges for border control. Its southwestern border with Iran is settled and generally unproblematic with no permanent deployment of military forces, only Pakistan's Frontier Corps of Balochistan is monitoring the terrain. The Chinese border in the northeast is short and settled with only the Karakoram Highway officially connecting the two countries through the Himalayan Mountains. Though this area is remote now, it may become a main artery of trade activity between Pakistan and the central Asian states as development plans are implemented. Pakistan's mountainous western border with Afghanistan is disputed by its neighbor and known as the "Durand Line." This border traditionally has been open and is today notoriously turbulent with considerable smuggling and jihadi activity. At the two established crossing points, one near the Khyber Pass and the other south of Quetta, approximately 2,000-3,000 vehicles and 200,000-300,000 people cross daily. The Frontier Corps Northwest Frontier Province (FC NWFP) is normally responsible for this border, but since it has become a hot border, the Pakistan Army has moved into the region. A combined Army and FC NWFP force of approximately 80,000 is operating in the area. Pakistan's eastern border is with India. It is patrolled by Rangers, but along the

disputed areas, specifically the line of control around Jammu and Kashmir, the Army is perpetually deployed. The disputed territories have different rules of engagement, and the Indian side is fortified by barbed wire fences, patrol towers, and India's Border Security Forces. Finally, Pakistan's coastline, stretching approximately 1500 km, is jointly under the jurisdiction of the Coast Guard and Maritime Security Agencies alongside Navy support.

Pakistan's efforts to improve border security have met with some difficulties. For example, the trial installation of biometric meters on the Afghan border was stiffly resisted by locals on both sides of the border with attempts made to literally dismantle the systems. Similar protests and attacks occurred when fences were erected along other stretches of the Durand Line in 2007.

Pakistan is working to instill a high quality security culture through specialized training of border officials, inter-ministerial coordination, and the synchronization of all stakeholders. These include the Ministry of Defense (Army and Navy), Ministry of the Interior (Rangers, Maritime Security Agency, Coast Guard, and Frontier Corps from the Northwest Frontier Province and Balochistan), the Ministry of Commerce, Federal Board of Revenue, and Pakistan Customs. Over 100 Pakistani officials have participated in at least 23 bilateral and multilateral workshops on sensitive materials and specialized-training in the U.S., Europe, and elsewhere. Bilateral and multilateral information exchanges on these topics are key to achieving unified border security goals.

As part of a United States Second Line of Defense (SLD) Megaports pilot program, radiation portal monitors and non-intrusive imaging equipment were deployed, and a central alarm station manned by Pakistanis was established, at Port Qasim in southern Pakistan. A central focus of the SLD program is tailoring technological and personnel resources to meet the specific geographic, demographic, and climate-related needs of its host partner countries. The goal is to detect, deter, and interdict illicit trafficking of nuclear and radiological materials at international border crossing points (land, airports, and seaports). To meet the broad spectrum of border control challenges in a country such as Pakistan, SLD can offer a diverse mix of equipment at fixed locations (vehicle, pedestrian, and rail monitors) and non-fixed locations (straddle carriers and van-mounted monitors). Handheld equipment (personnel radiation pagers, radioisotopic identifiers, radiation survey meters, and highly sensitive germanium identifiers) is also available. The SLD program also supports the development of regional and national training centers for personnel and assistance with technical and maintenance support to promote long term sustainability of security improvements since the ultimate success of any system lies with those operating it.

Looking forward, over the next 5-10 years Pakistan anticipates becoming an important energy corridor for the region. Keeping this growth in mind, border control solutions must be strict enough to engender confidence in their effectiveness but be flexible enough to not disrupt the flow of commerce. Trafficking prevention initiatives will require creative solutions and collaborations that utilize indigenous strengths and capabilities. One suggestion for the future is to deploy portal monitors at the bridge crossing points along the Indus River. This river bisects the country vertically and is not easily forged by individuals. This could be an effective use of modern technology.

Collaborations on Radiological Security

The Pakistan Nuclear Regulatory Authority was established in 2001 with the mission of ensuring the safe operation of nuclear facilities and protecting people and the environment from the harmful effects of radiation. It does so by formulating and implementing effective regulations, establishing relationships with licensees, and maintaining transparency in its operations. The PNRA is also responsible for the security of radiological sources. The increased availability of radiological sources in the region coupled with regional instability and the growth of terrorism have made protecting nuclear and radiological sources from those who would use them for nefarious purposes an important charge. For a more in-depth description of the PNRA's structure and the evolution of its responsibilities refer to the December 2007 *Arms Control Today* article, "[Building Confidence in Pakistan's Nuclear Security](#)," and summary report of the April 2007 PGS workshop, "[Building Confidence in Pakistan's Nuclear Security](#)."

Operating under Pakistan's Nuclear Security Action Plan (NSAP), some of the PNRA's most notable accomplishments over the past year include adding a new Inspectorate at Peshawar and beginning round-the-clock operations at its Nuclear Security Emergency Coordination Center (NuSECC) in Islamabad. In 2007, the PNRA also procured additional radiation detection equipment, searched for orphan sources, arranged nine workshops/seminars/table top exercises, focused on radiological security, and launched a media campaign to raise awareness about radioactive sources. Since 2001, the PNRA has trained approximately 430 national personnel (Coast Guard, Frontier Corps, Rangers, Customs, etc.) in nuclear security and safety practices at its centers. Forthcoming 2008 events include: opening a new inspectorate at Quetta, establishing a network of six emergency mobile labs, and procuring additional detection and physical protection equipment. Multilateral discussions on regulations, standards, and best practices with the global nuclear community are needed to optimize Pakistan's nuclear security. The PNRA would benefit from having its staff engage in on-the-job training in emergency response, recovery of radioactive and contaminated material, and the handling and management of radioactive sources at international facilities.

The U.S. Global Threat Reduction Initiative (GTRI) is responsible for international collaborations which remove or dispose of nuclear and radiological material and assist countries to upgrade the physical protection of their nuclear and radiological sources and sites. The GTRI program offers training, physical security site reviews, source evaluation, and material control and accounting (MC&A) measures. Its specialists assist countries in developing standardized operating procedures, and its most common upgrades utilize low-tech, locally available materials that promote sustainability through easy maintenance. Such items include motion sensors, cameras, and lockout mechanisms. The office is a potential future collaborator with Pakistan on nuclear and radiological security, though there are currently no ongoing activities in this area between the two countries.

Threats to Pakistan's Nuclear Assets

Since the Nation Command Authority (NCA) was created in 1999 to institutionalize command and control over Pakistan's nuclear weapons program, Pakistan has taken noteworthy steps to improve the security of its nuclear assets. Such steps include the Export Control Act of 2004 and President Musharraf's December 2007 ordinance which legally formalized the structure of the

NCA and made Pakistan's President the NCA Chairman and the Prime Minister its Vice Chairman. For more information on the specific steps taken by Pakistan see the December 2007 *Arms Control Today* article, "[Building Confidence in Pakistan's Nuclear Security](#)," and summary report of the April 2007 PGS workshop, "[Building Confidence in Pakistan's Nuclear Security](#)."

Despite this technical and organizational progress, a major irritant for Pakistanis is that the global community seems unconvinced of the fortitude of their nuclear security system, the reliability of their personnel, and their commitment to nonproliferation goals. There are five core reasons that policymakers, journalists, and the nonproliferation community of experts continue to express concern over Pakistan's nuclear activities. First is the A.Q. Khan legacy. Despite being a seemingly isolated incident, Khan's nuclear-proliferation-for-profit enterprise has made an indelible blemish on Pakistan's nuclear history. Second, Pakistan's nuclear weapons program is in a growth mode. Pakistan's production of fissile materials and its nuclear arsenal are increasing. Third, Pakistan's use of grey, and possibly black, markets to import nuclear related equipment that are denied under export control laws is inconsistent with international norms. Fourth, Pakistan's pattern of government volatility concerns those who worry about who may come to power and how that would effect the nuclear security apparatus. While religious extremists taking control of the government does not seem a likely scenario at present, there is a pattern of political volatility. Finally, the insurgencies active in Pakistan are an indication that security threats continue. Extremists operating in western Pakistan have expanded beyond the tribal regions to urban territories and have targeted government figures, vehicles, and buildings.

Pakistani participants recognize that all of these challenges exist; however, they are confident that the steps their country has taken, and will continue to take, to safeguard its nuclear assets are commensurate with the threats they face. The victories of moderate political parties and the smooth transfer of authority to those elected officials after the February 2008 elections are recent signs of stabilization in Pakistani politics. Further, with its modernized export control laws and numerous collaborations on nuclear safety and security with the IAEA and other foreign collaborators, Pakistan stresses its commitment as a responsible nuclear nation and wonders what degree of transparency and access the global community would require for Pakistan to dispel concerns regarding its nuclear security.

Media's Role in Shaping Perceptions

The Pakistani participants universally believe that their country is being unfairly singled out and demonized as a nuclear security risk in the international media. Expressing his dismay, one Pakistani panelist asserted that Pakistan cannot be a target and partner in the global nonproliferation community at the same time. The media's interest in a topic as globally relevant as nuclear security in Pakistan is not surprising. There are legitimate questions that any experienced correspondent would ask regarding any country's nuclear security. In an effort to counterbalance the negative press and alleviate continued concerns about the state of Pakistan's nuclear security, Lieutenant-General Khalid Kidwai, serving as the director-general of Pakistan's SPD which acts as the NCA's Secretariat, has engaged in an outreach campaign with foreign journalists and policymakers. Lt.-Gen. Kidwai and SPD officials have given an unprecedented number of briefings and tours to illustrate the strength of Pakistan's physical protection, personnel reliability program (PRP), and nuclear security standards.

Limitations on Nuclear Cooperation

A significant source of frustration for the Pakistani participants was the inability of the country to engage in normal nuclear trade and cooperation with the international community. In particular, they believe that the blanket embargos that exist prevent their country's acquisition of vital nuclear safety and security equipment and restrain their ability to be better informed about procedures and practices. Stressing the need to better integrate Pakistan into the mainstream of modern nuclear nations, participants suggested a revitalization of the formerly open and friendly relationship that Pakistan had with the U.S. and international nuclear community prior to the mid-1970s. In particular, they view the supply of safety equipment and information to Pakistan's safeguarded facilities as a possible confidence building first step, one that has been approved by the IAEA. This also is an area where a precedent favoring cooperation may be set if the U.S.-India nuclear cooperation agreement goes into effect. However, the Pakistani participants made clear that they are not asking for any assistance with unsafeguarded facilities.

While legal barriers make it difficult for Pakistan to receive nuclear cooperation from the international community at present, according to one U.S. participant, the following forms of cooperation may be legally permissible, though they are highly dependent on policy decisions:

- Providing "assistance for the protection or safety of nuclear weapons that is limited to multipurpose physical security equipment or measures, training in material accountancy and control, procedures for personnel vetting and exchanges on best practices."
- Exporting some dual-use items for physical security and safety reasons for safeguarded facilities, though these could not contribute to the nuclear weapons program.
- Cooperating generally to protect radiological sources, including spent fuel.
- Offering humanitarian and technical assistance at a nuclear facility in the event of a radiological incident resulting from an accident or sabotage.

Some of these avenues of cooperation have already been explored. For example, it is well known now that the U.S. and Pakistan have had important, but non-sensitive, discussions regarding the security of Pakistani nuclear assets and facilities. Also, discussions have been held on protecting and recovering radiological sources, though no actions have yet been taken. In addition, Pakistani officials indicated that they would look favorably at a collaboration that would support their goal of ensuring "cradle-to-grave" oversight and employment for scientists with sensitive knowledge. These are areas that the U.S. and Pakistan should discuss further to determine a path that will enhance Pakistan's nuclear security without harming the international nonproliferation regime.