



Pakistan's Nuclear Assets Safe and Secure

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Introduction

In September 2001, Center for Non-proliferation Studies, published a report addressing the question of safety and security of Pakistani nukes and four worst case scenarios were analyzed regarding the fall out of political instability in Pakistan; prospects of nuclear terrorism; possibilities of rogue military commanders or units accessing nuclear warheads or fissile materials, and consequences of any temporary loss of centralized control over nuclear storage sites. The study concluded that any worst case scenario was 'overstated'.

However, since Seymour Hersh's article in the New Yorker Magazine in Nov 2001, concerns were repeatedly raised in the American media about the possibilities of an extremist take over in Pakistan and the custodial controls of its nuclear weapons. Hersh disclosed an 'élite Pentagon undercover unit' especially trained to rescue the nuclear weapons of any worst case eventuality having contemplated options of operation in Pakistan which, according to US sources (in 2001), possessed twenty four nuclear warheads. Opinion makers like David Albright (Institute for Science and International Security), David Sanger (New York Times), Frederick Kagan and Michael O'Hanlon (New York Times), Thomas Ricks (Washington Post) and Peter Wannacott (Wall Street Journal) followed Hersh in raising questions over the safety and security of Pakistan's nuclear assets.

Following the imposition of the state of emergency in Pakistan in November 2007, nightmare scenarios were predicted; some focused on the US war games during late 2007, in terms of military options, if Pakistani nukes were to be taken out as the last resort to save them from falling into the 'wrong hands'. In December 2007, the US Senate passed a

defense authorization bill of the proposed legislation by Chairman of the Senate Foreign Relations Committee, Joseph R. Biden who suggested holding those countries responsible that would "contribute to a terrorist nuclear attack by letting others obtain one of its weapons, major components of a weapon, or the material for a weapon".

Such scenarios were disregarded by analysts in Pakistan as mere Hollywood thrillers and unadulterated nonsense hinting on resultant dangerous policy 'miscalculations' leading to more damaging consequences. Chief of the Army Staff, Gen. Ashfaq Kiyani dismissed international concerns about Pakistan's loose nukes scenarios' stressing that creation of such 'irresponsible alarm' by certain quarters was bound to be 'counter-productive'. Despite the fact that Pakistan has institutionalized its command and control structure and Pakistan's nuclear weapons are not on hair-trigger alert with separately stored components and fissile materials, as an additional security measure, Pakistan's C2 arrangement has received little appreciation. However, Pakistan's assertive C2 system protects against accidental or unauthorized use and is "failsafe," compared to the delegative C2 that is "fail-deadly" and this fact needs to be given due recognition and appreciation.

PAKISTAN'S NUCLEAR SAFETY AND SECURITY REGIME

The creation of Pakistan's National Command Authority (NCA) in 2000 with Strategic Plans Division (SPD) as its secretariat helped alleviate many of the concerns regarding the safety and security of Pakistan's nuclear weapons as well as the question of its custodial controls. Pakistan's nuclear structure has three main tiers the NCA, the SPD and the Strategic Forces Commands for three services. The NCA is headed by the

President and Prime Minister as its Chairman of the Employment and Deployment Control Committees. SPD has various directorates for strategic and operational planning with the Security Division being its integral part. For states like Pakistan who are already being targeted for all the wrong reasons, robustness of Personnel Reliability Program (PRP) naturally becomes an utmost priority. SPD has instituted a PRP in order to ensure 'individuals reliability' for all scientists and officials working on sensitive projects part of the nuclear establishment. Such an extensive and stringent PRP in place helps check cases like that of a recent case of mysterious death of an Indian Nuclear scientist Lokanathan Mahalingam, who worked in the Simulator Training Division of the Kaiga Atomic Power Station on June 08, 2009.

Pakistan is a responsible state party to various international instruments that contribute to the framework of the nuclear security regime. Various instruments of nuclear security regime include the Convention on the Physical Protection of Nuclear Materials (CPPNM); the Convention on Nuclear Safety; the UN Security Council Resolution 1540; the IAEA Code of Conduct on Safety and Security of Radioactive Sources.

Furthermore, Pakistan has a stringent export control framework and various legal instruments constitute this framework, some of which include Import and Exports (Control) Act, 1950 Act No. XXXIX of 1950 which authorizes the Federal Government to prohibit, restrict or control the import/export of goods and regulate practices and procedures connected therewith; Statutory Notification No.SRO-782, 1998 to prohibit the export of fissionable materials; Chemical Weapons Convention Implementation Ordinance 2000 to regulate and control import and export of chemicals in accordance with the provisions of CWC and penalties in case of violations; Pakistan Nuclear Safety and Radiation Protection (PNSRP) Ordinance of 1984 and Regulation of 1990; Export Control Act on Goods, Technologies, Material, and Equipment related to Nuclear and Biological Weapons and their Delivery Means, 2004 (which

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led to the creation of An oversight body, the Strategic Export Control Division (SECDIV) at the Ministry of Foreign Affairs was constituted in April 2007 to 'formulate and enforce rules and regulations for the implementation of export controls in accordance with the Export Control Act 2004 and also act as a licensing body').

II

PAKISTAN'S NUCLEAR REGULATORY AUTHORITY

The Pakistan Nuclear Regulatory Authority (PNRA) Ordinance of 2001 passed by Government of Pakistan provided for 'the establishment of the Pakistan Nuclear Regulatory Authority for regulation of nuclear safety and radiation protection in Pakistan and the extent of civil liability for nuclear damage resulting from any nuclear incident'. PNRA is a fully autonomous body while the DG Strategic Plans Division (SPD) is a member of PNRA so as to retain linkages with the safety aspects of the classified program. The PNRA performs various functions which include oversight and assessment of nuclear and radiation infrastructure and activities in Pakistan and to ensure nuclear safety and radiation protection by developing and enforcing regulations via safety assessments and licensing; it ensures that appropriate measures for physical protection of nuclear installations and nuclear materials are taken; it also coordinates and enforces emergency plans for foreseeable nuclear and radiological emergencies; it is responsible for developing a safety and awareness culture and it subscribes to IAEA's Illicit Trafficking Database (ITDB).

Pakistan launched a five year National Security Action Plan (NSAP) in order to strengthen and enhance the existing regulatory capabilities towards safety and security of nuclear/radioactive materials and facilities approved by Government of Pakistan in May 2006 and its implementation started in July 2006. NSAP has various objectives including management of radioactive sources and evaluation of vulnerable facilities; establishment of a Nuclear Safety and Security Training Centre; establishment of National Nuclear security Emergency Co-ordination Centre; locating and securing orphan radioactive sources; provision of detection equipment at strategic entry points to obviate chances of illicit trafficking of radioactive materials. According to the NSAP, management of radioactive sources is undertaken by creating new inspectorates and strengthening of regional directorates, reassessment of existing physical protection measures around facilities, through guidance and training to strengthen the systems, rigorous inspections during use, storage, and transport,

through inventory control and through meticulous personnel reliability.

Establishment of a training center established in Islamabad under NSAP arranges various national and international training courses, workshops, seminars, tutorials, and tabletop exercises. These series of activities are conducted on issues relating to nuclear security, illicit trafficking, detection equipment, and physical protection..

III PAKISTAN'S MPC&A PRACTICES

On Nuclear Materials Protection, Control and Accounting (MPC&A) practices, Pakistan has acquired a balanced mix of physical and material security. The physical security of assets and nuclear/radiological material is a multi layered system with various levels of access controls. "Pakistani nuclear controls include some functional equivalent to the two-man rule and Permissive Action Links (PALs) that the United States and some other nuclear-weapons states rely on to protect against loss of control, inadvertent weapons use, accidents, and other mishaps".

On fissile material protection, accounting and control Pakistan is following international best practices to ensure that its fissile material is accounted for till the last gram. The Radiation Safety Directorate (RSD) regulates and supervises matters related to radiation protection. Moreover, "RSD maintains round the clock National Radiation Emergency Coordination Center (NRECC), to deal with accidents involving radiation at nuclear and radiation facilities".

In order to ensure nuclear safety, the Nuclear Security Directorate (NSD) has been established which performs various functions including licensing of nuclear power plants modifications, periodic safety reviews and re-licensing; licensing and inspections of nuclear grade equipment manufacturing facilities; establishing and maintaining regulatory framework for nuclear safety; reviews and assessments; self assessment; coordinating with regional directorates in activities related to nuclear safety; maintaining and disseminating information on nuclear safety within PNRA and preparation of regulations, working procedures, and guidelines.

A Nuclear Security Emergency Coordination Center (NuSECC) has been functional at Islamabad under PNRA's arrangement with a toll free number manned round the clock. NuSECC is a part of National Radiological Emergency Coordination Centre (NRECC) for handling any nuclear and radiological emergency at national

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level. NuSECC also maintains a direct liaison with regional directorates, inspectorates, mobile emergency labs, users, customs, local governments and law enforcing agencies and is responsible for coordinating and tracking the movement of high radioactivity sources.

Radiation detection equipment has been provided at exit points which seeks to monitor nuclear or radioactive materials and also will serve as a control for illicit trafficking. A MoU was signed between FBR and PNRA to promote cooperation and organize mutual assistance against illicit trafficking of radioactive and nuclear materials. This MoU reinforces Pakistan's commitment to combat nuclear terrorism which has become a common threat to all countries around the globe. With this MoU, both Pakistan Customs and PNRA have agreed to cooperate in "joint measures for detection, and subsequent management, of radioactive and nuclear materials at strategic points".

IV PAKISTAN'S NUCLEAR SAFETY RECORD

Pakistan's nuclear safety record is impeccable and comparable to that of any other nuclear state in the world. A Henry L. Stimson Center report titled *Vulnerability of Research Reactors to Terrorist Attack* by a Pakistani visiting scholar provides an evaluation of safety and security of Pakistan's nuclear facilities against the possibility of sabotage acts. This study dismisses act of nuclear terrorism as 'a very remote possibility' in Pakistan.

In a 2007 study titled *Preventing Nuclear Terrorism in Pakistan*, similar conclusions were drawn. This research undertook a hypothetical study of sabotage on radioactive consignments during transportation in Karachi and Lahore, the efficacy of Pakistan's nuclear safety controls and its response to nuclear terrorism. Interestingly, it ruled out the fabrication of a Radiological Dispersion Device (RDD) and WMD as "not very attractive to a terrorist group in general specifically within the context of Pakistan". An earlier study titled *Pakistan's Nuclear Assets and Threats of Terrorism: How grave is the Danger?* also reached a similar conclusion.

Pakistan's safety mechanisms and firewalls in weapon systems along with their chain of commands, precludes any probability of unauthorized or inadvertent use of its nuclear weapons. Pakistan's nuclear weapon systems are not a one man operation nor does it operate on one-man rule. Furthermore, Pakistan has taken effective measures to fulfill its international obligations under UNSCR 1540 to exclude any possibility of theft and sabotage during the transportation of sensitive nuclear materials. It has been ensured that "specialist vehicles and tamper-proof containers are provided for transit of nuclear materials, and escorted by military personnel." While the concerns about transportation security remain while the materials are in transit, "Pakistan has been working to ensure it meets all the guidelines included in the Convention on the Physical Protection of Nuclear Materials."

IV CONCLUSIONS

The highly institutionalized command and control system that has been set up after overt nuclearization since 1998 caters for operational readiness with responsibility and firm control; safety against accidents; security against all kinds of likely threats; stringent technology control regime and the existence of a dialogue process with India. These welcome indicators have been acknowledged with appreciation by critics as well, whether domestic or abroad.

The issue of onward proliferation that has smeared Pakistan's reputation belongs to the time when Pakistan's program was covert, with its major concern being the ability to avoid any sabotage endeavor by individuals, entities or states that might want to attack, damage or destroy elements of Pakistan's evolving nuclear capability. But with a firm institutionalized command and control firmly in place, such vulnerabilities have been addressed.

Studies on Pakistan's vulnerabilities with respect to sabotage on its nuclear facilities or threats of nuclear terrorism exhaustively reveal that the threats are merely speculative in nature and are not Pakistan specific. Therefore, alienating Pakistan in this regard is counterproductive for the international non-proliferation, counter proliferation and counter terrorism efforts especially when Pakistan has displayed its commitment towards ensuring nuclear safety and security of its assets and materials by establishing export controls post UNSCR 1540; its record of nuclear safety as per IAEA's annual nuclear safety reviews and by joining the Global Initiative to

Combat Nuclear Terrorism (GICNT).

After a decade of nuclearization, Pakistan stands confident for having made significant improvements in providing transparency relating to its nuclear safety and security infrastructure and considerable measures that have been taken to ensure the security of its nuclear establishment. Such an institutionalized Command and Control structure with a well integrated security and safety regime provides sufficient confidence to Pakistan about its security arrangements.

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