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Pakistan's Nuclear Security Measures and International Apprehensions

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ABSTRACT

After provocative Indian nuclear detonations in May 1998, Pakistan officially became seventh nuclear weapons state on 28 May 1998. Since then, numerous claims have made that Pakistan's nuclear assets are unsafe and rogue elements within and outside the state could breach the security of Pakistan's nuclear assets and could use this lethal technology against international peace. Although, Islamabad rejected all kinds of speculations regarding weak nuclear command, control and security systems but the regional and domestic situation made it difficult to be acceptable to the international community. The article will assess the claims made by US and International Atomic Energy Agency (IAEA) officials regarding the nuclear security concerns. Furthermore it will also discuss the security measures taken by Pakistan to address the concerns of the international community in making its nuclear assets secure as other states have.

KEYWORDS: Pakistan, NCA, DCC, SPD, PNRA**,** IAEA**,** CPPNM

INTRODUCTION

After 9/11, America and its allies, especially policy institutes, print and electronic media initially raise questions regarding the protection of Pakistan's nuclear assets. "On September 18, 2001, the Institute for Science and International Security (ISIS) raised concerns that increased instability in Pakistan could make Pakistan's nuclear weapons and stocks of nuclear explosive material dangerously vulnerable to theft by militant groups." [1]. It also emphasized the likelihood of an armed assault on Pakistan's nuclear assets by radical actors associated with Taliban or Al-Qaida, and the function of armed forces personnel compassionate to the religious fundamentalists.

On November 11, 2007 the Washington Post and New York Times published an intelligence report, which affirmed that United States had prepared eventuality plans to prevent Pakistan's nuclear weapons fall into the harmful elements. The very next day in response to the statement official from foreign office Islamabad stated that "the country had sufficient retaliatory capability to protect its nuclear weapons; it was also affirmed that there was no risk of the weapons being taken by any group, and if another country tried to intervene, Pakistan was ready to defend its nuclear arsenal" [2].

The specific concerns often raised by U.S authorities as well as expressed in the international medium, which raised reservations over Pakistan's nuclear safety and security, can be summed up as following:

- Thievery of nuclear arms or substance by radical groups.
- Susceptibility of nuclear armaments during conflict, transportation, and deployment
- The internal insecurity could abate the authorities control over its nuclear weapons whereby Islamic fundamentalists could hold control on them. Particularly, fears that Pakistan could suffer a further military overthrow and that a radical leadership would seize nuclear arms
- Scientists within facilities could steal imperative information or assist other states or rogue groups on nuclear technology
- An insider can join forces with a interloper to disrupt nuclear installations
- Some security experts hoist apprehensions on unintentional or illicit use of nuclear arsenals [3].
- "A Congressional Research Service (CRS) report of February 2005 says that there are two basic nuclear risks in South Asia: first, that terrorist will acquire nuclear material or nuclear weapons, and second, that nuclear war will erupt through miscalculation, through preemption, or through sudden escalation" [4].

To eradicate these fears, Pakistani Foreign Office and security representatives have given numerous special briefings on Pakistan's nuclear safety to Western ambassadors and correspondents. Although Pakistani officials have refused all of mentioned concerns but the measures taken by Islamabad to address these concerns must be highlighted.

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Measures to Protect Nuclear Arsenals

The nuclear safety program for nuclear assets is now fifteen years old and it is frequently developing. Ever since the 1998 nuclear explosions, Islamabad has taken special actions to protect the state's nuclear belongings. The primary measure was the formation of the National Command Authority (NCA) in 1999 to administrate and preserve nuclear materials and associated facilities. "The NCA has a three-tiered structure with two committees, the Employment Control Committee (ECC) and the Development Control Committee (DCC), constituting one tier; the Strategic Plan Division (SPD), the permanent secretariat of the NCA, second tier; and the three services Strategic Force Command, the final tier" [5].

The SPD plays a significant role as a managing entity and supervises nuclear assets by working together with all strategic organizations. It also has devised a standard operating system to regulate the pattern of strategic organizations. "It has established a system which requires approval, reporting and monitoring of travel for all scientific personnel, especially those that possess sensitive information or expertise" [6]. "On May 28, 2009, the Director of Arms Control and Disarmament Affairs at the SPD, Air Commodore Khalid Banuri, claimed that Pakistan has a force of nearly 10,000 people deployed to keep a tight vigil on the country's nuclear arsenal" [7]. Under the SPD Pakistani authorities have taken countless measures in the last twelve years to secure its nuclear assets compatible to the standard international procedures for nuclear security.

Screening Programs for Individuals

To make sure individuals' dependability stands on commonly established security standards, Pakistan has instituted Personnel and Human Reliability Programs for all officials and scientists working on key assignments. The program is governed by SPD along with three intelligence organizations (ISI, MI, and the IB). "The procedures were established in the early 2000s; it took two years to do so, and the reform had to overcome resistance" [8]. "Two different programs exist: a Human Reliability Program (HRP) for civilians and a Personnel Reliability Program (PRP) for military" [9]. "The PRP and HRP makes sure that personals accountable for handling or guarding nuclear materials or weapons are reliable, trustworthy, psychologically stable and moderate" [10]. Underneath these programs a person assign to a sensitive assignment now go through a safety approval by the Inter-Services Intelligence (ISI), the Military Intelligence, the Intelligence Bureau, and the SPD.

The program has been scrutinized nearly 2500-4500 persons. "This includes about 2,000 scientists or engineers working in particularly sensitive areas or having critical knowledge; they continue to be monitored after retirement" [11]. There are approximately ten thousand personnel having access to vital information and SPD plans to expand programs to all these employees. "After primary screening, there are periodic clearance rechecks every two years or when an individual is relocated from one location of the program to another" [12]. In addition, arbitrary verifications can be performed if necessary. This procedure comprises absolute background check of an individual, including lifestyle, family, friends, political associations, educational career, and inclinations. "Furthermore, the 2007 National Command Authority Ordinance, grants SPD power to investigate distrustful conduct, and can send for up to 25 years of sentence any serving and retired personnel, including military personnel, notwithstanding any other laws" [13].

Physical Security and Surveillance

As much as physical safety measures of Pakistan's nuclear assets are concerned, the nuclear installations are spread physically. There are various systems of protection over nuclear assets. "This includes highly trained Special Forces at the inner perimeter, air defense systems, no fly zones, fencing of structures, monitoring by state of the art equipment, close-circuit cameras, sensors, and check posts at second and third level, and counterintelligence teams to identify any threat to nuclear installations" [14].

In year 2001, President Musharraf ordered relocation of nuclear arms to nearly 06 new clandestine sites, and rationalized the armed lapse of nuclear security services. It is widely believed that Pakistan acquired approximately 100 nuclear weapons kept detached from their deliverance means, with the core detached from detonators. Former head of SPD General Khalid Kidwai stated that, the weapon can be accumulated rapidly when the requirement occurs. Additionally to their detached position, nuclear warheads are operational with Permissive Action Links (PALs), also verified by General Kidwai in 2006. For the detonation of the weapon the PALs requires code. "According to Brigadier (retired) Naeem Salik, Pakistan has developed its own PAL systems which obviously ensures that even if an unauthorized person gets hold of a weapon, he cannot activate it unless he also has access to the electronic codes" [15].

There are different levels of nuclear protection. "The first level (inner ring) is directed by the SPD, which supervises some 9,000 workforce devoted to this task, the SPD's directorate in charge of nuclear security is led by a two-star general and is endowed with its own counter-intelligence team" [16]. It has a unit in all key laboratories managed by the NCA, each leaded by a high ranked military officer. The next level known as outer ring is observation and

screening of apprehensive events outside the facility, with ISI association. The SPD has a procedure of responsive material control and accounting. It is based on usual and surprise examinations. To track the apparatus of warhead the SPD adopted inventory systems it also set up a special response fore along with advanced and secured containers for transportation.

According to Inter-Services Public Relations (ISPR), a nuclear security appraisal was carried out in 2011. United States has assisted Islamabad to solidify such procedures with the sharing of expertise and perhaps equipment.

Security of Non Military Nuclear Installations

Pakistan's civilian nuclear sites protection is administrated by the Pakistan Nuclear Regulatory Authority (PNRA), established in 2001, "The PNRA regulates all aspects of civilian nuclear energy which include licenses for imports and exports, to create necessary legislations and regulations, and to ensure the physical protection of nuclear installation and nuclear material" [17]. PNRA has 200 expert members Director General SPD (DGSPD) is also an associate of the PNRA. The military and other intelligence agencies play their part to implicate its policies and laws. In 2002, “the PNRA streamlined nuclear disaster management by announcing a host of new measures for protecting the plant and society from hazards that could be man-made or natural” [18]. A five-year Nuclear Security Action Plan (NSAP), deployed to improve protection of nuclear substances and radioactive materials of all nuclear amenities was implemented by the PNRA in 2006. A security review of existing and under construction nuclear sites was carried out in 2011. "Under the NSAP, the PNRA has established safety and security training centers, the National Security Emergency Coordination Centre (NSECC), launched campaigns to locate and secure orphan sources and provision of detection equipment at strategic points to help prevent illicit nuclear smuggling" [19]. "All identified sources are said to have been cataloged, orphan sources have been recovered, and two protected storage sites have been set up" [20]. To improve nuclear safety, Islamabad is also collaborating with IAEA. Furthermore, Islamabad endorsed the Convention on the Physical Protection of Nuclear Materials (CPPNM) in 2000. In 2008, the expert judgment review showed satisfaction on civilian complex security of Pakistani nuclear sites.

"As pointed out earlier, Pakistani nuclear weapons are in de-mated status with warhead and fissile cores stored separately; and, besides other physical security measures, the technical design features supplement safety against unauthorized or accidental launch" [21]. On November 27, 2007 DGSPD stated that:

> “Pakistani nuclear controls include some functional equal to the two-man command 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" [22].

"Pakistan adopted a two-man rule to validate the codes that call for the release of the weapons; it may in fact be a three-man procedure in some cases; such verification processes are standard in advanced nuclear-weapon States" [23]. "Some observers believed that on three man rule, the three men are the missile launch team commander, a representative from the Strategic Plans Division (SPD) with the missile team, and the head technician from the strategic organizations" [24]. Pakistan also employed some permutation of technical procedures to make sure ritual measures are being in practice. The fundamental part of debate on Pakistan’s nuclear arsenals includes PALs. "Luongo and Salik, citing a 2004 television interview with former Pakistani nuclear scientist Samar Mubarakmand, state that every Pakistani warhead is now fitted with a code-lock device, which requires a proper code to enable the weapon” [25]. Former SPD officials, Air Commodore Khalid Banuri and Adil Sultan sum up the control structure in less fail-safe terms:

> "To preclude any possibility of inadvertent or unauthorized use of nuclear weapons, Pakistan has developed physical safety mechanisms and firewalls both in the weapon systems themselves and in the chain of command; no single individual can operate a weapons system, nor can one individual issue the command for nuclear weapons use" [26].

Islamabad's efforts on nuclear safety have been silently supported by the Washington. Therefore, officials from United States stated that the programs have enhanced protection, as in May 2009 Admiral Mullen commented that “the United States, have invested fairly significantly over the last three years, to work with Pakistan, to improve that security; and we’re satisfied, very satisfied with that progress.” Furthermore, American Deputy Secretary of State Richard Armitage, said,

> "We have spent considerable time with the Pakistani military, talking with them and working with them on the security of their nuclear weapons. I think most observers would say that they are fairly secure. They have pretty sophisticated mechanisms to guard the security of nuclear assets." [27]

New York Times also reported that the Washington provided nearly $100 million worth of aid to Pakistan for training and equipments for security measures [28]. PALs did not emerge as part of any assistance; because of American legal limits and also for Islamabad's sensitivity that US technological support may endanger Pakistan’s liberty of action through an intense crisis. As said by Feroz Khan,

> "In 2001, US Secretary of State Colin Powell offered nuclear security assistance to Pakistani President Gen. Pervez Musharraf. The SPD carefully examined the offer and accepted training but declined technology transfers, which they perceived as intrusive or likely to compromise program secrecy.… There has been no further acceptance of any assistance [beyond training], especially permissive action links (PALs)…." [29].

Participation in Nuclear Safety Programs

Pakistan is an active member of international non proliferation regime and known as a conscientious nuclear power. Islamabad is a member to the below mentioned conventions and security measures on nuclear security:

- The convention on nuclear safety
- Convention Physical Protection of Nuclear Materials (CPPNM),
- IAEA code of Conduct on Safety of Radioactive Sources
- United Nations Security Council Resolution (UNSCR) 1540.

"It was one of the key members which presented a report to United Nations to complete its commitments under UNSCR 1540, which requires enactment of 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" [30]. Until now Pakistan has submitted four reports to the United Nations commission, managing the implementation of Resolution 1540. Almost all civilian nuclear facilities are under the purview of the IAEA, through PNRA. "Islamabad is an dynamic member in the of the Global Initiative to Combat Nuclear Terrorism (GICNT), especially on issues related to nuclear forensics and efforts to upgrade the international community's ability to identify nuclear and other radioactive resources in order to prevent nuclear trafficking" [31]. In March 2006, It also become member of the United States backed Container Security Initiative (CSI) for the training and assistance in nuclear security.

In 2012 Seoul nuclear security summit Pakistan promised to create a training center related to nuclear security furthermore Islamabad also became a signatory to 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; it also developed a radiation emergency response mechanism and a Nuclear Security Emergency Coordination Center" [32] . It is also preparing to advance physical safeguard of civil nuclear power plants.

CONCLUSION

After analyzing security concerns on Pakistan's nuclear program it has become clear that the country is facing a distressed period and facing multiple issues including an unstable neighbor Afghanistan which has a past of political unsteadiness; and rebel activities. Despite a notable inventory of actions for its nuclear protection, efforts regarding highlighting of security efforts are not sufficient. This has added to the continuous disbelief about Pakistan's aptitude to secure its nuclear facilities. These characteristic make the safety of nuclear program a global anxiety. "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" [33].

Islamabad has taken serious actions regarding its accountability for nuclear protection. The misinformation by lobbyists and media aligned with the safety of Pakistan's nuclear program is groundless. Islamabad is collaborating with Washington on personnel screening and training on nuclear security. It is also taking part in global forums committed to averting terrorism and developing nuclear safety. Pakistan also took necessary measures domestically and improved the authoritarian system for prevention of proliferation of nuclear resources and knowledge. Authorities in Pakistan recognize that its weapon program is intensely intertwined and safety of nuclear assets is a top precedence. The existing command and control structure emerges to be premeditated to tackle most conceivable circumstances with regards to internal unsteadiness. "While the international system should continue efforts to stabilize Pakistan in part so that scenarios that currently seem implausible do not become more likely analysts looking at Pakistani nuclear risk should not assume state failure" [34]. The adopted screening program and other procedural safeguards make sure that a person or group of peoples cannot gain access of nuclear warhead without the consent of established authority and strict protocols.

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