# UNITED STATES AND PAKISTAN: NUCLEAR SECURITY ISSUES

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## INTRODUCTION

Political instability, economic volatility, the rise of the right-wing political leadership and an increase in the number of terrorist organisations operating from Pakistan and gaining the support of the Pakistani establishment have nations concerned about the safety of the nuclear assets within Pakistan. Adding to the problem is the well documented proliferation network that has supplied nuclear technology to North Korea, Libya and Iran with Pakistan at its centre. These actions have increased the problems and challenges that nuclear proliferation poses. The proliferation of nuclear weapons technology, associated technology and/or nuclear material to any state or non-state actor, not recognised to receive such technology or material is one of the most serious dangers to the international security environment. This contributes to not just regional instability and global proliferation, but also increases the risk of violent non-state groups' obtaining a nuclear weapon, with a number of violent extremist groups opposed to India operating from Pakistan. These issues have raised concerns among the international community about the security of Pakistani nuclear weapons.

For the United States, Pakistan poses a serious dilemma. Pakistan has been an 'ally' of the Unites States during the Cold War and continues to

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be essential for its fight against the Taliban and other extremist forces in Afghanistan. The United States is also aware of the belligerent nature of relations between Pakistan and India. Given its own changing threat perceptions, the United States is reevaluating its approach to the region in general and to India in particular.[1] Ties between India and America have flourished over the past decade. The United States is currently promoting its 'rebalancing' policy for Asia in which India plays an important role as an emerging international player with a stable economy and a thriving political system. India's success with democracy is also viewed by the United States as critical to its interests and helps promote stability in the region.

This paper aims to examine the safety and security concerns arising from Pakistan's nuclear programme. It is an attempt to understand the apprehensions of the United States vis a vis Pakistan's nuclear assets. The United States is apprehensive about the safety and security of nuclear weapons and nuclear installations in Pakistan. A nuclear Pakistan is not in the best interest of the United States as Pakistan is politically fragile and economically unstable. Moreover, its relationship with its nuclear neighbour is acrimonious and it has unfriendly relations with the other neighbouring countries. The paper concludes by addressing some of the related concerns of India.

## PAKISTAN'S NUCLEAR PROGRAMME: SAFETY & SECURITY CONCERNS

Bruce Riedel, a career South Asia expert and co-chair of the Obama Administration's Afghanistan-Pakistan strategy review, captured global anxieties about Pakistan in a concise sentence, "It has more terrorists per square mile than any place else on earth, and it has a nuclear weapons

1. Bhumitra Chakma, "South Asia's Nuclear Deterrence and the USA", in Bhumitra Chakma, ed., *The Politics of Nuclear Weapons in South Asia* (Surrey: Ashgate, 2011), p.113.

programme that is growing faster than any place else on earth."According to Graham Allison, Harvard professor, "When you map (weapons of mass destruction) and terrorism, all roads intersect in Pakistan." Consciously or unconsciously, they have stated the fears of the international community. [2]

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Pakistan is also one of two nuclear weapons-possessing states—the other being North Korea—for which there is a non-negligible risk of state failure. [3]What might happen if the current Pakistani government is taken over by radicalised political forces sympathetic to the Taliban? Such a government, it is feared, might share Pakistan's nuclear weapons materials and knowhow with others, including terrorist organisations. Then there is the possibility that a more radical government might engage in a war again with India. Could Pakistan prevail against India's superior conventional forces without threatening to resort to nuclear arms? If not, what, if anything, might persuade Pakistan to stand its nuclear forces down? There are no good answers to these questions and even fewer near or mid-term fixes against such contingencies. This, in turn, encourages a kind of policy fatalism with regard to Pakistan. [4]

Pakistan's nuclear programme started with acquisition of civilian nuclear technology and manpower training in the 1960s, under the United States sponsored "Atoms for Peace" programme (1953). President Dwight D. Eisenhower presented this nuclear initiative as a way to change the way nuclear energy was viewed by the world. The aim of the programme was to direct nuclear research away from military use and towards more "peaceful and civilian use" to improve the socio-economic condition of humankind. In August 1954, the U.S. Atomic Energy Act was revised to allow nuclear

2. Christopher Clary, *Thinking about Pakistan's Nuclear Security in Peacetime, Crisis and War* (New Delhi,, IDSA, 2010), p.3.
3. Ibid.
4. Henry D Sokolski, "Pakistan's Nuclear Woes", in Henry D. Sokolski, ed., *Pakistan's Nuclear Future: Worries beyond War* (Carlisle; Strategic Studies Institution, 2008), p.1.

technology and material exports if the recipient country committed not to use these items to develop weapons. These exports were intended to maintain U.S. global leadership, reduce Soviet influence, and assure continued access to foreign uranium and thorium supplies.[5]

Pakistan's civilian nuclear programme began with its participation in the Atoms for Peace initiative. It allowed Pakistan to develop scientific collaborations with laboratories in the West. The defeat in the 1965 War with India deeply changed the nuclear perception in Pakistan. The Kashmir issue, instead of being resolved, remained a major irritant in India-Pakistan relations. India's military was far stronger and the United States despite being Pakistan's ally did not provide it assistance. These considerations along with the negotiations for the Nuclear Non-Proliferation Treaty (NPT) and China's nuclear activities after its first nuclear test in 1964 led Prime Minister Zulfiqar Ali Bhutto to the conclusion that India too would develop nuclear weapons to deter China. Extrapolating the impact of an Indian nuclear weapons capability on Pakistan, he stated in an interview to the *Manchester Guardian* in 1965, that if India built the bomb, "We will eat grass, even go hungry, but we will get one of our own. We have no other choice".[6] Pakistan concentrated its focus on the development of nuclear weapons after its defeat in the 1971 War with India and the nuclear test conducted by India in 1974.

Pakistan embarked on a clandestine nuclear weapons as its threat perception vis-a-vis Indian increased. As a result, in April 1979, President Jimmy Carter imposed unilateral military and economic sanctions against Pakistan after discovering that Pakistan was secretly constructing a facility to enrich uranium. The sanctions were imposed under the Symington Amendment to the Foreign Assistance Act of 1961, which called for ceasing economic assistance to non-nuclear weapon countries that imported uranium-enrichment technology. The sanctions, included denial of fuel and heavy water for an International Atomic Energy Agency (IAEA)

5. Peter R. Lavoy, "The Enduring Effects of Atoms for Peace", accessed on October 10,2013, URL- http://www.armscontrol.org/act/2003_12/Lavoy
6. Feroz Hassan Khan, *Eating Grass: The Making of the Pakistani Bomb*, (Stanford; Stanford University Press, 2012), p. 59

safeguarded nuclear power reactor at Karachi. Due to Pakistan's support to American war efforts in Afghanistan against the USSR, the sanctions were not effectively implemented and they were lifted by December 1979. However, the sanctions left a profound impact on the minds of Pakistanis who viewed these actions as "unfair and a betrayal of trust". This view was further deepened as the US hardened its position on nuclear weapons after the Soviet withdrawal from Afghanistan and the end of the Cold War. In 1990, President George W. Bush terminated assistance to Pakistan. Nonetheless, despite sanctions and export control regimes, Pakistan was able to develop its nuclear weapons programme.

According to the Stockholm International Peace Research Institute (SIPRI) *Yearbook 2013,* Pakistan has an inventory of 100-120 nuclear warheads and is increasing the size and sophistication of its nuclear arsenals. It is developing and deploying new types of nuclear-capable ballistic and cruise missiles such as the Hatf-2 and Shaheen missile and increasing its military fissile material production capabilities. In 2012, Pakistan conducted a series of missile trials, testing most of its nuclear-capable missiles that are currently in operational service or still under development. Pakistan is also expanding its main plutonium-production complex at Khushab, Punjab.[7] From the Pakistani perspective, it has invested heavily in nuclear weapons due to security threats from India, which, according to the same source, has a total inventory of 90-100 nuclear warheads. Claiming that India's arsenal is a threat, Pakistan has justified its own nuclear arsenal in that helps it to gain parity in conventional defence capabilities. Pakistan's nuclear arsenal is "India-specific" in the words of Pakistani officials. Pakistan seeks to leverage its nuclear weapons to limit India's ability to apply strategic pressure on Pakistan, be it direct or indirect. There are few indications in the public domain Pakistan has sized or oriented its arsenal to deal with a possible Iranian nuclear threat, nor does it appear to be overly focussed of the possibility of a United States counter-proliferation strike. Pakistan's nuclear planners are concerned primarily with inflicting unacceptable

7. SIPRI "SIPRI Yearbook 2013: Armament, Disarmament and International Security", Accessed on 30 Sept. 2013, URL- http://www.sipri.org/yearbook/2013/06

punishment against India.[8] According to a report published by the Landau Network-Centro Volta (LNCV) (Italy), in case deterrence fails, the nuclear weapons will be used if

- India attacks Pakistan and conquers a large part of its territory (space threshold)
- India destroys a large part either of its land or air force (military threshold)
- India proceeds to the economic strangling of Pakistan (economic threshold)[9]
- India pushes Pakistan into political destabilisation or creates a large scale internal subversion in Pakistan (domestic threshold)[10]

This justification for parity resonates not just within the armed forces of Pakistan but also the political class, as well as the man on the street. Most Pakistanis believe that nuclear weapons are necessary for the country and a guarantor of national sovereignty.[11] Thus, nuclear weapons in Pakistan are as much to deter an external threat as to appease the domestic constituents.

Chronic political instability in Pakistan and Islamabad's military efforts against the Taliban and Al-Qaeda have raised concerns about the security of Pakistan's nuclear stockpiles. Some observers fear that Pakistan's strategic nuclear assets could be appropriated by terrorists or used by rogue elements in the Pakistani government and military to build a 'dirty bomb'. A 'dirty bomb,' also known as a radiological weapon or a Radiological Dispersal Device (RDD), is a conventional explosive packaged with radioactive materials. Such a device does not require much expertise to build.

Since 2007, Taliban-linked groups have successfully attacked tightly guarded government and military targets in the country. Militants carried

8. Clary, n. 2, p. 6.
9. Economic strangling would include a naval blockade and the stopping of the waters of the Indus river.
10. Political destabilisation and internal subversion are considered possibilities that need to be managed, given the past experience.
11. References from George Perkovich, "The Non-Unitary Model And Deterrence Stability In South Asia", Accessed on September 16, 2013, URL- http://www.stimson.org/images/uploads/research-pdfs/George_Perkovich_-_The_Non_Unitary_Model_and_Deterrence_Stability_in_South_Asia.pdf

out small-scale attacks outside the Minhas (Kamra) Air Force Base in 2007, 2008, and 2009, and gained access to the site during a two-hour gunfight in August 2012. Pakistani officials have repeatedly denied claims that the base, which houses the Pakistan Aeronautical Complex, is also used to store nuclear weapons. Other incidents include an attack on the nuclear missile storage facility at Sargodha on November 01, 2007, and the August 20,, 2008 attack when Pakistani Taliban suicide bombers blew up several entry points to one of the armament complexes at the Wah cantonment, considered one of Pakistan's main nuclear weapons assembly areas. Several Pakistani nuclear facilities, including the Khushab facility and the Gadwal uranium enrichment plant are in proximity to areas under attack from the Taliban. [12] As of now, there are no reports of the attackers being able to destroy or steal any material from any of these facilities. The secrecy surrounding Pakistan's nuclear storage sites makes it very uncertain to an attacker (or an analyst) whether any given location actually contains nuclear material or technology. Pakistan has maintained that the attacks were repulsed from the outer periphery of all facilities, which is proof of Pakistan's ability to safeguards its nuclear assets. The frequency of such attacks on Pakistani strategic and nuclear installations has increased the vulnerability of its nuclear assets, and become a concern for the international community.

Additionally, there have been attempts to kidnap officials and technicians working at nuclear sites in western Pakistan. Further, most of Pakistan's nuclear weapons infrastructures, with a few exceptions, are located in the north and west of the country and the region around Islamabad and Rawalpindi at sites such as Wah, Fatehjang, Golra Sharif, Kahuta, Sihala, Isa Khel Charma, Tarwanah, and Taxila. These are close to or even within areas dominated by the Pakistani Taliban militants and Al-Qaida.

Aware of the increasing doubts on its ability to protect its nuclear assets, Islamabad has tried to assure the international community that it is in control of the weapons and weapons facilities. It established the National

12. Chidanand Rajghatta, "Jihadis Thrice Attacked Pakistan Nuclear Sites", *The Times of India,* August 11, 2009, accessed on September 30, 2013, URL- http://articles.timesofindia.indiatimes.com/2009-08-11/pakistan/28160861_1_shaun-gregory-pakistan-nuclear-sites-nuclear-weapons

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Command Authority (NCA) in 2000 to ensure the protection of nuclear weapons from accidental or unauthorised use. The NCA is composed of political and military leaders, a supporting secretariat, and specialised strategic forces. Pakistan asserts that it has established a "robust set of measures to assure the security of its nuclear weapons." As far as the physical security of Pakistan's nuclear weapons and infrastructure is concerned, it adheres to the United State's practices, procedures, technologies, which comprise: (a) physical security; (b) personnel reliability programmes; (c) technical and procedural safeguards; and (d) deception and secrecy.[13] It has a multi-layered system of security over the nuclear installations. Pakistan operates a layered concept of concentric tiers of armed forces personnel to guard the nuclear weapons facilities, the use of physical barriers and intrusion detectors to secure the physical separation of warhead cores from their detonation components, and the storage of the components in protected underground sites. The Pakistan Army is in charge of the section of the personnel who protect these sites. The composition of the Special Plans Division (SPD) which controls use of nuclear devices is also military.[14] The SPD has four primary directorates as well as a security division. The security division is composed of 9,000-10,000 personnel reporting to a serving two-star general. By far, the largest component of SPD, the security division, provides internal and external security for nuclear-related sites. The remaining directorates are: the Operations and Planning Directorate; the C4I2SR (Computerised Command, Control, Communications, Information, Intelligence, and Surveillance) Directorate; the Strategic Weapons Development Directorate, which interfaces with and provides budgetary oversight for the nuclear weapons research and development organisations; and the Arms Control and Disarmament Affairs Directorate, which provides

13. Shaun Gregory, "The Security of Nuclear Weapons in Pakistan", Pakistan Security Research Unit (PSRU) Brief Number 22, Accessed on September 30, 2013, URL-https://www.dur.ac.uk/resources/psru/briefings/archive/Brief_22finalised.pdf
14. Ibid.

military advice on arms control and non-proliferation negotiations.[15] During peace-time, the SPD is responsible for protecting Pakistan's strategic programmes from insider and outsider threats, most importantly from theft or loss of nuclear material and against infiltration of the strategic organisations by ill-intentioned actors. It does so through a combination of secrecy, physical security, counter-intelligence teams, personnel screening programmes, procedural controls, and technical controls.[16]

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The fear of non-state actors gaining access to nuclear material becomes a serious threat if one takes into consideration the possibility of collusion. It is no secret that many within the Pakistan military, intelligence agencies and civilian establishment are anti-West, especially anti-America, and there exists similarly a section that is pro-Islamists. Thus, many feel that the connection between Pakistan and the risk of nuclear technology being sold in the black market is a reality and should be taken into account when discussing the safety of nuclear materials in Pakistan. Analysts have focussed primarily on the broader radicalisation in Pakistani society. Pakistani physicist Pervez Hoodbhoy argues, "Pakistan's 'urban Taliban,' rather than illiterate tribal fighters, pose a nuclear risk. There are fears that there are a few scientists and engineers in the Pakistani nuclear establishment who might be sympathetic to certain extreme religious views." Also, the Pakistan Army has typically recruited heavily in northern Punjab and the Northwest Frontier Province (NWFP), including some areas that suffer from fierce insurgencies today. Military personnel sympathetic to insurgents cannot be discounted.[17] There could be other reasons for of the terrorist organisations to launch attacks on nuclear sites, apart from acquiring nuclear material. They are symbols of national pride and attacking them could be extract specific concessions from the government. It should be pointed out that most terrorist organisations

15. Clary, n. 2, pp. 12-13.
16. Ibid., p.13.
17. Ibid., p. 22.

active in Pakistan have not yet been successful in their aim.

Fresh tensions for Pakistan could come from the likelihood of Iran developing nuclear weapons. As stated earlier, Pakistan's nuclear capabilities are not yet focussed on Iran. While Iran has time and again claimed that its nuclear research is for peaceful use, if it does decide to declare itself a nuclear weapons state, then Pakistan is looking at the prospect of two nuclear neighbours and the possibility of a nuclear crisis in the Middle East. Iran's nuclear ambitions have led to a war of words with Israel and statements by other countries of the region expressing concern. In response, the governments of Gulf states like Saudi Arabia have responded that they too would seek a nuclear capability, thereby adding to the failure of the global non-proliferation regime.

While international concern has been largely about Pakistan's military programme, the risks are not limited to it. The civilian nuclear infrastructure faces similar threats, thought till date, there have been no reports of attacks by any terrorist organisation on the civilian nuclear facilities. Pakistan's civil nuclear assets include three nuclear power plants that are operating in Karachi and Chasma (the Karachi Nuclear Power Plant, KANUPP, and the Chasma Nuclear Power Plant, CHASNUPP-1 and CHASNUPP-2 respectively). All three plants operate under International Atomic Energy Agency (IAEA) safeguards. Unlike its military facilities, Pakistan civilian nuclear power plants are known and need more security from potential attackers. The Pakistan Nuclear Regulatory Authority (PNRA), established in 2001, regulates all aspects of civilian nuclear energy which include licences for imports and exports, to create necessary legislations and regulations, and to ensure the physical protection of nuclear installation and nuclear material, including waste.[18]

Pakistan will be rapidly expanding its civilian nuclear power infrastructure in the coming years. An increase in the number of nuclear power plants would also need an increase in staff to not just oversee licensing and plant siting but also to supervise safe day-to-day operation of the plants. The need

18. Pakistan Nuclear Regulatory Authority, "Pakistan Nuclear Regulatory Authority Vision", accessed on September 30, 2013, URL- http://www.pnra.org/

to hire and train a large work force of regulators, scientists, and station staff and support personnel, all with adequate knowledge of how to respond to emergencies, is not possible over a short period of time. The consequences of having inadequately trained staff would be significant.

Nuclear plant operation, with relatively inexperienced staff might increase the chance of an accident. While nuclear power plants are built with a relatively large margin for safety, an inexperienced staff could quickly overcome this margin, especially if the nuclear capacity expansion plans gets into high gear and new nuclear units are commissioned at relatively high rates which outpace the rate of new operator training and maturation.[19] All this at present is being done without any change in the oversight of nuclear power plants already operating. Such vulnerabilities might lead to safety related or security threats. With respect to Pakistan, it is important to also note that safety related issues might cause severe social and economic implications on their own, and precipitate further national security related actions by the government or attacks by terrorists trying to capitalise on the general unrest created by a safety event.

One of the problems with the expansion plan that Pakistan has envisaged for itself is the large amounts of spent fuel that would be generated as a result. Nuclear waste management is an integral part of any nuclear expansion plan. The large amount of spent fuel in the nuclear power plants of Pakistan could become a target of terrorist and non-state actors, who would like to cause harm to the Pakistani state or other states. Apart from spent fuel, other radioactive substances such as cobalt irradiation sources and neutron sources could be used by saboteurs with technical education for the productions of Radioactive Dispersion Devices (RDDs).[20] Each power plant has to keep a stock of fresh fuel to be loaded into reactors. Each reactor is loaded with fresh fuel at a different time so as to prevent significant loss to the supply grid. Each reactor also has a supply of fresh fuel available at the plant at any given point of time. Scenarios of terrorist

19. Braun Chaim, "Security Issues Related to Pakistan's Future Nuclear Power Program", in Henry D. Sokolski (edited) *Pakistan's Nuclear Future: Worries Beyond War* (Pennsylvania; Strategic Studies Institute, 2008), pp. 299-305.
20. Ibid., p. 320.

groups attempting to take over a nuclear power plant for purposes ranging from political attention to diverting nuclear material to causing harm to the plant itself cannot be ruled out. If the terrorists are able to inflict damage to even one unit of the power plant, it would be effectively lost. This is a risk that has to be kept in mind given the politically unstable environment of Pakistan.

**RESPONSES FROM THE UNITED STATES**

For the United States, Pakistan's nuclear capabilities present at least four challenges:

- There is a small but real possibility of the next India-Pakistan crisis escalating to the nuclear level.
- Pakistan may decide, as a matter of state policy, to extend a nuclear umbrella (or engage in nuclear sharing) with one or more Middle East (West Asia) States, especially if Iran acquires a nuclear weapon.
- There is a hard-to-quantify risk of nuclear theft. Pakistan has a home-grown personnel reliability programme, but even this could be circumvented in a determined conspiracy.
- There is some small chance that should Pakistan unravel, its nuclear assets will be seized by remnant elements of the army for political, strategic, or personal purposes."[21]

While the possibility has been debated for a number of years, Pakistan has not collapsed as a State. Thus, it is necessary to work with the other facts that are currently available to India and the United States.

The United States is aware of the sensitive nature of the issue when she is discussing nuclear weapons with Pakistan. Nuclear weapons for the United States are weapon of deterrence, however, for Pakistan they are linked to the question of its sovereignty and pride, while being weapons of destruction. The United States has generally expressed confidence in the Pakistani government's ability to secure its nuclear arsenal. This was noted

21. Stephen Cohen, "The US Pakistan Strategic Relationship and Nuclear Safety/Security", accessed on June 11, 2013, URL-http://www.brookings.edu/research/testimony/2008/06/12-pakistan-cohen.

by President Obama when he addressed this issue in an April 29, 2009, press conference, stating, "I'm confident that we can make sure that Pakistan's nuclear arsenal is secure, primarily, initially, because the Pakistani Army, I think, recognizes the hazards of those weapons falling into the wrong hands. We've got strong military-to-military consultation and cooperation."[22] Similar sentiments were echoed by Department of State spokesperson Mark Toner when he stated on November 9, 2011, that the United States "continue(s) to have confidence in the government of Pakistan that they both understand the threat to their nuclear arsenal, the varied threats to their nuclear arsenal, that they're taking appropriate steps to safeguard them."[23] The United States intelligence community has also articulated similar sentiments.

If Pakistan is keeping its nuclear weapons safe, then why is there such a concern for their safety? It is because the United States recognises that there are vulnerabilities in Pakistan's security apparatus, as discussed earlier. Also the United States' knowledge of Pakistan's arsenal is limited; further reliable information on the operational status of the nuclear arsenal and capabilities, as it is not party to the NPT, is difficult to determine and authenticate.

The attacks on Pakistan's nuclear facilities brought the matter to the forefront. Pakistani nuclear technology faces threats from outsiders attempting to penetrate security and seize sensitive nuclear materials or technology or insiders that seek to steal such items. As stated earlier, various terrorist groups have shown their intent to target secure installations, including nuclear-related facilities and personnel. Many of these complexes are primarily conventional weapons stations, thus, it is impossible to discern whether they have been targeted because of their conventional role or because of their possible nuclear one. Nonetheless, in either situation, it is a disturbing trend because it shows the determination as well as the ability of the terrorists to elude security in high security installations to achieve

22. The White House, "News Conference By The President", accessed on September 30, 2013, URL- http://www.whitehouse.gov/the-press-office/news-conference-president-4292009
23. Department of State, "State Department Daily Press Briefing", accessed on September 30, 2013, URL- http://translations.state.gov/st/english/texttrans/2011/11/20111109164446su0.8302663.html#axzz2gMMGlWZE

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While the threat from terrorist organisations is pertinent, it is the collapse of the Pakistani government that is viewed as the most likely scenario against which the United States has contingency plans. During former Secretary of State Condoleezza Rice's confirmation hearing in January 2005, in response to a question from Senator John Kerry about what would happen to Pakistan's nuclear weapons in the event of a radical Islamic coup in Islamabad, Secretary Rice answered, "(W)e have noted this problem, and we are prepared to try to deal with it." The issue of the United States' contingency plans to take over Pakistani strategic assets was raised again in the press following Benazir Bhutto's assassination.[24]The United States has since then denied its intention or desire to take control of Pakistan's nuclear weapons.

The United States has repeatedly offered to help Pakistan secure its nuclear weapons and keep them safe. This assistance complies with the provisions of the NPT and is within the limits of its domestic laws. It includes best practices and technical proficiency applied by the United States, to protect its nuclear weapons from unauthorised and accident use, physical security of facilities and reliability checks of personnel. According to officials from the United States the programmes have improved security. The United States government has also reportedly offered assistance to secure or destroy radioactive materials that could be used to make a radioactive dispersal device, and to ship highly enriched uranium used in the Pakistani civilian nuclear sector out of the country.[25] Pakistan's response to these proposals is as yet unclear. Pakistan is sensitive to the assertion that any assistance from the United States might restrict Pakistan's freedom of action to use its assets during an extreme crisis. It is worth noting that,

24. Paul K. Kerr and Mary Beth Nikitin, "Pakistan's Nuclear Weapons: Proliferation and Security Issues", Congressional Research Service Report, March 19, 2013 (Washington DC: Congressional Research Service, 2013), p.19.
25. Ibid., p.14.

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according to some observers, spent fuel from Pakistan's Karachi and Chasma nuclear power plants could be vulnerable to theft or attack. However, Pakistani officials have expressed confidence in the security of its facilities and have said that Islamabad has no plans to transport spent fuel from either reactor.[26] There is a trust deficit in the bilateral relationship which has complicated efforts in this area. Most Pakistanis believe that their facilities are vulnerable not to the Taliban or Al Qaeda forces but they suspect the United States of the same. The precedent of a foreign military attacking nuclear installations has been established; in 2007, Israel attacked what it viewed to be a nuclear installation in Syria. The attacks on Iraqi and Iranian nuclear installations sites are also well known.

Proliferation is another facet of nuclear security. The proliferation network as espoused by Pakistani scientist Dr. A. Q Khan brought forward the threat of terrorist organisations obtaining nuclear material or expertise related to nuclear weapons from Pakistan. The network was initially used to clandestinely obtain nuclear technology for Pakistan. Thereafter, it was used to supply nuclear technology, design and enriched uranium for profit to Libya, North Korea and Iran. While the current status of this network is unclear, the United States' intelligence and other agencies are of the opinion that the network has been not operational. Nonetheless, most analysts have come to the conclusion that Pakistan as a state cannot be trusted. The United States Department of Energy and Department of Homeland Security have provided Pakistan with assistance to improve its export control processes.

Apart from the concerns about Pakistan's military nuclear programme, its civil nuclear programme is also being closely monitored by the international community. It should be noted here that Pakistan has been operating its nuclear plants, civilian and military, research and reprocessing units and uranium enrichment plants since 1972 without any incidents. There have

26. Ibid., p.21.

been no known sources of diversion of material from any of these facilities. The IAEA also does not have any record of any incident to have occurred of diversion from any of the plants which are under safeguard obligations. However, the proliferation record that Pakistan has in dispersing nuclear technology mean that future diversions are viewed as possible.

In the civil nuclear domain, Pakistan has been critical of the India-US civil nuclear agreement. It has demanded a similar deal from the United States, which has so far been denied. Pakistan has also sought negotiations for the same with France and UK, meeting with similar results. To mitigate these setbacks it has increased its civil nuclear cooperation with China, which as a member of the Nuclear Suppliers Group (NSG), has argued that the current agreement for cooperation with Pakistan predates its becoming a member of the NSG.[27] Nonetheless, it has been cautioned against future cooperation. As non- signatory to the NPT, Pakistan wants India and Pakistan to be treated as equals. Pakistan's demands for equal treatment with India are based on the fact that all its commercial nuclear power plants, unlike India's, have always been under IAEA safeguards. Pakistan further claims that she has put the 'Khan Affair" behind, conducted adequate investigation of the affair, punished Dr. Khan and his collaborators, strengthened its institutional control over its entire nuclear complex and coordinated its export controls policies with the NSG as well as the United Nations (UN) Resolution 1540 committee[28]. Since 2008, Pakistan has been demanding criteria based exemption in the NSG rules, which would allow it to develop nuclear cooperation with the countries of the NSG. This is different from the country based exception that has been made for India, which benefits only India.

Internationally, there is limited support to grant Pakistan an NSG exemption as enjoyed by India. The United States Congress is also not in

27. Carl Paddock, *India US Nuclear Deal: Prospects and Implications* (New Delhi: Epitome Books, 2009), pp. 140-141.
28. On April 28, 2004, the UNSC unanimously adopted Resolution 1540 (2004) which affirms that the proliferation of nuclear, chemical and biological weapons and their means of delivery constitutes a threat to international peace and security. The resolution obliges States, inter alia, to refrain from supporting by any means non-state actors from developing, acquiring, manufacturing, possessing, transporting, transferring or using nuclear, chemical or biological weapons and their delivery systems.

favour of such a deal. In addition, Pakistan has a poor proliferation record and its economy inspires no confidence that a sustainable and profitable nuclear market will develop. The huge political and financial risks involved would deter major suppliers from building nuclear projects in Pakistan, particularly amid persistent domestic terrorism.

**CONCLUSION**

While the safety and security of nuclear weapons and material is not the sole basis of the relationship between the United States and Pakistan, they comprise a major area of concern. The two countries have a long standing partnership but it would seem that the relationship is being reviewed and revised by both. For Pakistan, the United States would work with it when needed and thereafter put pressure through economic and military assistance. The view in Pakistan is that as the United States withdraws from Afghanistan, like in 1989, Pakistan would once again have to face the consequences. The apprehension within Pakistan after the Abbottabad raid is that the United States could in future conduct similar 'unilateral military action' to target its nuclear assets. On the other hand, the United States has not taken kindly to the rise in anti-America feelings and the radicalisation of Pakistani society. Questions have been raised within the Congress about continuing with the various aid and assistance programmes if the government is unable to curb such feelings. Pakistan's support to terrorism and terrorist organisations is another reason for the Congress now scrutinising assistance to Pakistan.

For the United States, South Asia and the Asia-Pacific region have gained importance. The United States has been promoting its 're-balancing' strategy in the region and has emphasised on its relations with India. The United States is investing in a long-term strategic partnership with India to support its ability to serve as a regional economic anchor and provider of security in the broader Indian Ocean region.[29] The United States is well aware of the relations between Pakistan and China. Given the nature of

29. Department of Defence, "Sustaining US Global Leadership: Priorities for 21st Century Defence", accessed on October 17, 2013, URL-http://www.defense.gov/news/defense_strategic_guidance.pdf, p.2.

animosity between India and Pakistan, the United States is apprehensive at the possibility of the 'next war' escalating to a nuclear confrontation.

For the United States, the security threat from a nuclear Pakistan is largely in the domain of terrorist organisations using nuclear technology and/or material against the United States or its allies or its interests anywhere in the world. There is no threat of the Pakistani state using nuclear weapons against the United States.

For India, the threat from a nuclear Pakistan is two-fold: Pakistan as a state is hostile to India and the militaries have fought four wars while skirmishes on the borders between the two continue unabated. The political class has time and again used rhetoric on the use of nuclear weapons against India as a means to build support. The Pakistan military has also issued veiled nuclear threat. The military is used to being the dominant force in the country and it has invoked the population to view it as an essential pillar of the country. Therefore any statement issued or supported by the military in Pakistan needs to scrutinised. Two crises, the Kargil confrontation in 1999 and the 2001-02 Indo-Pakistani military standoff, ensured that the United States employed all diplomatic means to end a possible escalation. Although official documents are unavailable that can shed light on the Pakistani assessment of the nuclear implications of the operation, it is reasonable to infer that the 'Kargil planners' must have given careful thought to New Delhi's reaction and the nuclear risk that it carried.[30] Nonetheless, it can be said that Pakistan's willingness to provoke India has shown a growth with its expansion in its nuclear acquisitions.

The other threat that emanates from Pakistan is in the form of terrorism. There is a number of terrorist organisations that are openly operating in Pakistan who are hostile to India. Some such organisations have State support, with evidence to prove their links with the Inter-Service Intelligence (ISI), Pakistan's premier intelligence agency. These organisations have carried out acts of terror against India on numerous occasions. India has time and again provided Pakistan with evidence about the involvement of individuals and organisations in acts of terror in India, but operating

30. Bhumitra, n.1., p. 116 & pp. 134-135.

from Pakistan. For example, New Delhi has given Islamabad a dossier with evidence to prove that the terrorists who masterminded the Mumbai attacks (2008) are residing in Pakistan. India has repeatedly called on Pakistan to take action against Hafiz Saeed, the man blamed for masterminding the Mumbai attacks. None of these efforts has made much progress. In his meeting with his counterpart in New York (September 2013), Prime Ministers Manmohan Singh reiterated India's demand for justice and cooperation from Pakistan on these issues. Given Pakistan's proliferation record, the hostility of terrorist organisations towards India and the attacks on nuclear sites by them in Pakistan, it is natural for India to be concerned about the safety of nuclear devices in Pakistan. In such a situation, if any of these groups is able to obtain a nuclear device or nuclear material, with just rudimentary knowledge to assemble a dirty bomb, it would prove to be disastrous for the international community and, particularly, for India.

India, the United States and the international community would like to avoid such a situation. Washington and Islamabad have been cooperating on Pakistan's nuclear arsenal since 2001. Nuclear security for Pakistan cannot be confined to better safeguards. The United States has to encourage Pakistan through technology to secure its arsenal and limit it as well. While a nuclear deal similar to that will India has been denied to Pakistan, the United States has to engage itself with the civil nuclear programme. Pakistan has taken significant steps to ensure the security of its nuclear assets from threats both domestic and international. Political and economic instability is the source of the nuclear risk in Pakistan. The United States has to abandon its short term engagement policy towards Pakistan and ensure that its engagements with Pakistan are with a goal to achieve regional stability and allay proliferation fears.