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The two-day Nuclear Security Summit was the largest assembly of world leaders organized by the US since the UN Founding Conference in 1945. The Obama Summit included 47 nations, included 38 heads of state and government, and three international organizations.

The Summit focused on the issue of securing all nuclear materials within four years. Overall, the Summit was an unprecedented event and a significant success. In particular, it established a global consensus on the urgency of the agenda and greater willingness on behalf of developed and developing nations to cooperate.

The Cobalt-60 incident in a Mayapuri scrap market in New Delhi coincided with the Nuclear Security Summit. The origin of the radiological material still remains hazy, although there has been discussion of it either tracing back to a Delhi University Chemistry Department or a foreign source.

Whatever the case may be, the incident, where one radiation exposed victim has now succumbed to injuries, has brought the issue of radiological safety and security to the forefront. It also illustrated the need for better coordination among the various government agencies that oversee these developments.

Despite India receiving significant leverage on the international level from the Summit, the radiation leakage revealed that it is critical for India to review its preparedness in the face of the threat of nuclear terrorism or radiological incidents, particularly as the number of nuclear facilities increase in the country.

At the Summit Prime Minister Manmohan Singh announced his decision to set up a Global Center for Nuclear Security in India with four schools being envisaged to conduct research on proliferation-resistant

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nuclear technologies. This can be seen as a positive measure, illustrating India's emerging role in the global dialogue. India should continue to use its new status and contemplate innovative multilateral measures to propel the issue of nuclear security forward.

The New Start: A Step Forward?

Jasbir Rakhra, Research Officer, Institute of Peace and Conflict Studies

8 April 2010 marked an important day in the nuclear chronology of the United States of America and Russia as Presidents Barack Obama and Dmitry Medvedev signed the most important post-Cold War arms reduction treaty in Prague. The New START (Strategic Arms Reduction Treaty) has fulfilled the objectives of disarmament by paring the American and Russian nuclear weapons. The next step is to have this treaty ratified by the US Senate and Russian Duma. The major concern for the Republicans is US missile defences which are considered to be undermined by the New START. Will the Republican concern prove an obstacle to the ratification of the treaty?

Its other implication will be on the status of nuclear weapons deployed in NATO countries. What will be NATO's final decision on tactical nuclear weapons (TNWs) stationed in Netherlands, Turkey, Germany, Belgium and Italy? Apart from these issues, there was a strategic necessity for the United States and Russia to enter START; the disintegration of the Soviet Union raised concerns in the minds of the two leaderships. Russia remained anxious to retain its super-power status by maintaining nuclear parity with United States whereas the United States was concerned about the safety and security of the Russian nuclear arsenal, preventing nuclear proliferation and the possibility of an accidental nuclear war.

The New START is a confidence building measure between the two countries. It will restore strategic stability and predictability, and bolster the Nuclear Nonproliferation Treaty (NPT); in the NPT Review Conference (NPT RevCon). New START restricts each side to 700 deployed strategic nuclear delivery vehicles and 1550 deployed strategic nuclear warheads, which is significant as compared to the 2200 permitted under the Strategic Offensive Reduction Treaty (SORT). Further, New START provides for a comprehensive verification mechanism which is less intrusive than that envisaged by START I. According to Konstantin Kosachev, chair of the Duma Foreign Relations Committee, the earlier agreements were based on the Russian proverb "Trust but Verify." The New START relies on the opposite maxim – "Verify but Trust." The New Start is a reset strategy; which has been the goal being pursued by the US President Barack Obama.

The Republicans are concerned about several references to missile defence in the preamble of the treaty, some of which could limit US actions during hostilities. Any linkages to missile defence in the Treaty is seen as being contrary to the US national security objectives and its

ability to protect the homeland, its troops and military bases overseas and its allies from the ballistic missiles as directed by President Obama's Ballistic Missile Defence Review (BMDR). They are concerned about the number of ballistic missiles currently in existence outside the control of US allies, Russia and China; according to BMDR there are 5900 ballistic missiles. According to the US lawmakers, the Treaty does not inhibit US missile defences and does not undermine national security. It will help to build trust between the two nuclear giants and prevent misunderstanding and miscalculations. The US Senate needs 67 out of 100 votes to ratify the treaty. The treaty has gathered support from nuclear stalwarts and the former Republican Secretaries of State, Henry Kissinger and George Schultz; so, there is hope of gaining support to get it ratified. Similarly, there may be obstacles in the Russian Duma. The retired generals have an "institutional memory" of the Cold War and may argue against the New START.

“After the ratification, the New START will breathe life into the vision of a nuclear weapons free world but all depends on the attitude of entities opposing the Treaty. They must understand that the threats are nuclear proliferation and terrorism, which do not require the US and Russia to deploy large numbers of nuclear weapons.”

The New START does not address the issue of an estimated 200 US tactical nuclear weapons (TNWs) in Europe. New START must bring TNWs in Europe to the top of the agenda. Removing US TNWs from Europe would display imaginativeness by the United States to reach its objectives but also provide an impetus to nuclear disarmament and re-energize the nonproliferation agenda. Keeping in view the opposition of the Republicans, the removal of tactical nuclear weapons from Europe might block the ratification of the Treaty but is necessary to ensure the Russian support. According to Obama's Nuclear Posture Review the fate of TNWs in Europe lies in the hands of the NATO members states. A parallel arrangement between NATO and Russia on nuclear arms reduction can be enforced under the aegis of the NATO-Russia Council (NRC).

Apart from addressing the issue of TNWs in NATO countries, there are some other issues to be addressed. New START includes special but complicated accounting rules, especially determining the number of warheads, which includes heavy bombers. The new Treaty does not require the elimination of warheads as delivery vehicles are being reduced. The warheads retrieved from delivery vehicles that are retired can be kept in storage. These issues can be further discussed as the Treaty is yet to be officially made public. After the ratification, the New START will breathe life into the vision of a nuclear weapons free world but all depends on the attitude of entities opposing the Treaty. They must understand that the threats are nuclear proliferation and terrorism, which do not require the US and Russia to deploy large numbers of nuclear weapons.

The Upcoming NPT Review Conference: Prospects

PR Chari, Research Professor, Institute of Peace and Conflict Studies

As a prelude to the forthcoming NPT Review Conference that begins next week and will last for most of May, President Obama has accelerated the global non-proliferation agenda. The US Nuclear Posture Review was announced earlier this month, which seeks to reduce the role of nuclear weapons in US national strategy; a new arms limitation agreement [new START] has been negotiated between the United States and Russia to drastically reduce long-range missiles in their nuclear arsenals; and, finally, the Nuclear Security Summit has identified the security and safety of nuclear materials as constituting the present nuclear non-proliferation danger. The Iranians held their own rival summit thereafter, and secured the presence of 60 countries, in contrast to the US Nuclear Security Summit that had 47 countries attending.

However, the United States has conceded that it is unable to ratify the Comprehensive Test Ban Treaty (CTBT), as promised last fall. The US Senate has to reach this decision by a two-thirds majority, meaning 67 out of 100 votes. President Obama and the Democrat Administration do not have these votes unless some Republicans indulge in cross-voting. This has occurred before, but whether it will happen again for ratifying the CTBT is uncertain. The new START agreement is also in trouble. The United States and Russia had agreed to lower their strategic warheads to 1,550, and limit their nuclear delivery vehicles -- missiles, submarines and bombers -- to 700. Another 100 are permitted in reserve. Again, two-thirds of the US Senate must vote in favor of this new START agreement before it can enter into force. But Republican Senators have serious objections to the provisions in the new START that bars Washington from arming ICBMs or submarine-launched ballistic missiles with missile interceptors. Obama officials have argued that new START does not limit its missile defense options, because they were never in favor of pursuing such efforts, but this explanation has only heightened skepticism. The issue in contention between the two former adversaries, in truth, is missile defenses, which the United States is committed to establishing to assure the security of its partners and allies. The Russian Duma also needs to ratify the new START Agreement. But Russia views US missile defenses as designed to degrade its deterrent and permit the United States to acquire a preemptive nuclear capability. Whether new START will be ratified by the two countries is quite uncertain.

These issues could arise in the Conference. Other battle lines are evident. The United States will call for strengthening the grand bargain that upholds the NPT and is embodied in it; that bargain envisages that nuclear weapon powers shall move towards eliminating their nuclear stockpiles; in lieu, the non-

nuclear weapon states shall refrain from acquiring nuclear weapons, but all member states are entitled to pursue peaceful atomic energy programs. The United States will call for stronger action against Iran, which is assiduously pursuing its uranium enrichment program with a cavalier disregard for its obligations under the NPT. Similarly, North Korea has also flouted its commitments to the NPT by pursuing a clandestine nuclear weapons program and conducting two nuclear tests. It has transferred nuclear technology to Pakistan, Myanmar and Syria. The United States will, most likely, press for enhancing the existing sanctions upon Iran, perhaps imposing them on petroleum products to exploit Iran's limited refining capacity. A premium would also be placed on North Korea returning to the Six Party talks and capping its military nuclear program.

For its part, Iran has raised the stakes in its own parallel Summit to rail against US double standards by highlighting its benevolence towards Israel—which has assured Iran an attentive ear in the Middle East and Gulf countries. Further, Iran has also publicized the exceptional treatment meted out to India under the Indo-US nuclear deal, which permits India to obtain nuclear technology and retain its nuclear weapons. Now China seems favorably inclined to providing a similar nuclear deal to Pakistan, and it would be difficult for the United States to seriously object. Consequently, all three holdouts—Israel, India and Pakistan—are likely to be accommodated within the NPT structure. What message does this convey to the other non-nuclear weapon states in the NPT? Iran seems likely to exploit their resentments against these anomalies in the NPT.

It is worth recalling that the last NPT Review Conference in 2005 ended badly with the 189 member nations assembled being unable to reach consensus on any substantive issue. Several issues remain in contention at present. These contentions should manifest themselves in the first few days of the Conference; the remaining time will be spent in a slugfest between the contending antagonists; hence the prospect of a consensus document emerging at the end of this exercise is quite uncertain.

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The Iranian Nuclear Conference

Siddharth Ramana, Research Officer, Institute of Peace and Conflict Studies

The Nuclear Security Summit discussed the safety and security of nuclear materials, and preventing its proliferation to non-state actors who could use them for terrorist purposes. While the al Qaeda was clearly identified, the Washington summit made references to the Iranians being the main problem. Iran, a signatory of the Non-Proliferation Treaty (NPT), has been repeatedly condemned by the West for developing an illegal nuclear weapons program. The international community's concerns are accentuated by Iran's documented state patronage of terror groups like the Hamas and Hezbollah. India cannot dismiss these fears due to its own problems with jihadis in the subcontinent. Iran's linkage to Pakistani rogue nuclear scientist, AQ Khan, has further added to Indian concerns with the Iranian nuclear program. The Iranians have rejected these allegations. Accusing countries opposing their nuclear ambitions as hypocritical and organizing summits "designed to humiliate people"; Tehran launched its own nuclear summit titled "Nuclear energy for all, nuclear weapons for none". However, compared to the Washington conference, many heads of state gave it a miss, with Prime Minister Singh stating that India would only be represented at the diplomatic level, because of the last minute nature of the conference.

The official theme of the conference was to discuss disarmament challenges, and promote practical steps to achieve nuclear disarmament. But its underlying theme was to showcase Iran's vehement opposition to nuclear weapons, promote support for its nuclear program, and highlight western hypocrisy towards some non-NPT states in providing them with the nuclear technology only available to NPT signatories, and turning a blind eye to the nuclear activities of other states in the region. This was a build up from President Ahmadinejad's September 2009 speech, where he declared a nuclear weapons program as "not being part of our plan." Ayatollah Ali Khamenei, in his opening session, condemned the American nuclear weapons as 'tools of terror'; while Iranian Foreign Minister, Manouchehr Mottaki, asserted that a nuclear free Middle East "required the Zionist regime to join the NPT". The conference also discussed the legal aspects of using or threatening use of nuclear weapons, and the advisory rule (1996) of International Court of Justice on the illegitimacy of nuclear weapons which stipulates the obligation of nuclear states towards the implementation of Article 6 of NPT. The concluding statement articulated concerns about the "continued existence of Weapons of Mass Destruction- nuclear arms in particular- as well as their application or threat to apply them". Ironically, as

the conference was concluding, Iran celebrated 'Army Day', which boasted an annual military parade, showcasing its nuclear capable missiles, while extolling criticism towards Israel and the United States. Oblique references to India were made in the speech by Iran's Atomic Energy head, Ali Akbar Salehi, who spoke about the "interferences from certain western countries which are weakening the NPT". The reference was to the Indo-US civil nuclear deal, which Iran has opposed, claiming that it weakens the nuclear proliferation regime. India and Iran have been at loggerheads over the responsibility of states in the nuclear sphere. India maintains that, as a NPT signatory, Iran would need to have far more transparent dealings with the International Atomic Energy Agency (IAEA) than at present. After India voted twice against it in the IAEA, Iran has repeatedly condemned the Indian stance, to the extent of even threatening a revision of bilateral relations. According to the Secretary of Iran's Supreme National Security Council of Iran, Saeed Jalili, "preventing Major Powers from imposing their influence on the International Atomic Energy Agency (IAEA) is another way of promoting nuclear disarmament and non-proliferation and strengthening of NPT," which articulates the Iranian position vis-à-vis the Indo-US civil nuclear deal that it might pursue in the upcoming NPT review conference in May 2010. Iran has used the conference to demonstrate its strength, and highlight its position that the IAEA and international community have been unjust towards Iran's nuclear program. Advocating the need for an "independent international group which plans and oversees nuclear disarmament and prevents proliferation", President Ahmadinejad, outlined that such a group would need to be democratic and free from the political pressures which have marred the functioning of the IAEA. In recent months, a number of

countries have shown an ambivalent position on dealing with the Iranian nuclear program, especially in the light of their energy investments in the country, and their own political opposition to the United States. India has, of late, opposed a more punitive policy towards Iran, and urged a diplomatic solution to the Iranian nuclear problem in bilateral discussions with the United States and multi-lateral forums, including the recently concluded BRIC meetings. Indian regional interests have informed its hardline position towards Iran's nuclear program. However mild diplomatic measures could provide Iran the much needed time for developing its covert nuclear facilities. A nuclear Iran is not in Indian interests, and while the conference professed global zero aspirations, the Iranian effort to develop covert enrichment facilities betrays that ideal. The Iranian position directs its hostility against Indian interests and deepens the battle lines that are being drawn before the NPT Review Conference.

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India's Nuclear Liability Bill

Chaitanya Ravi, Research Intern, Institute of Peace and Conflict Studies

A Civil Liability for Nuclear Damage Bill that is essential for American commercial nuclear firms to enter the US\$150 billion Indian civil nuclear energy market has sharply polarized India's political, legal and strategic communities. The government deferred the introduction of the bill in Parliament after strong opposition from India's major opposition parties in March 2010.

Passage of the bill is considered important for the full implementation of the landmark Indo-US nuclear deal that was signed in December 2008. It may also result in contracts worth US\$10 billion for the moribund American nuclear industry from the two reactor sites allotted to Westinghouse Electric (a unit of Toshiba) and GE Hitachi by the Indian government. Indian planners consider nuclear power to be an important part of the energy mix and aim to increase nuclear capacity from the current 4560MW (3% of total capacity) to 20,000MW by 2020 and 63,000MW by 2032.

Bitter memories of past industrial accidents and pricing controversies over major power projects among India's political and intellectual class has cast a shadow over the nuclear liability debate. India lost 3,800 people in a gas leak at the Union Carbide factory in Bhopal in 1984 and was polarized over pricing issues concerning the US\$2.9 billion Enron power project.

At present, India is not a party to any of the four international nuclear liability conventions (the 1960 Paris Convention, the 1963 Vienna Convention, the 1997 protocol to Amend Vienna Convention and the 1997 Convention on Supplementary Liability for Nuclear Damage). Its domestic nuclear law (Atomic Energy Act of 1962) says nothing about nuclear liability or compensation for nuclear damage resulting from a nuclear accident.

Since all civil nuclear facilities are owned by the Central Government (Nuclear Power Corporation of India Limited and the Bharat Navbhikiya Vidyut Nigam, both public sector enterprises), the liability issues arising from these installations are its responsibility. Under existing Indian legislation, foreign suppliers may face absolute, unlimited and non-delegable liability, something that prevents them from taking insurance cover. Private American firms are more affected than their government backed French and Russian counterparts. There is no clarity over trans-boundary liability issues and liability during transport of nuclear material.

The provisions in the bill that deal with total compensation in case of a nuclear accident and limits on the liability of the

nuclear operator are the most controversial. Clause 6 caps the maximum amount of liability in case of a nuclear accident at 300 million Special Drawing Rights (SDR's- around US\$460 million or Rs2100 crore) while the liability of the operator for each nuclear incident has been capped at Rs500 crore. The government will be responsible for liability over Rs500 crore.

In a move that is likely to strengthen the government's case, the country's atomic energy establishment including Srikumar Banerjee, Chairman of the Atomic Energy Commission, Anil Kakodkar and MR Srinivasan- both former Chairmen of the Atomic Energy Commission have come out in support of the deal. They have pointed out that India needs a well defined liability framework and claim that the liability bill will pave the way for India to join an international liability regime and access additional funds (if compensation claims exceed the overall cap specified in the liability bill, an additional 300 million SDR can be made available through the Convention on Supplementary Compensation).

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Clause 3 of the bill requires the Atomic Energy Regulatory Board to notify the nuclear incident within fifteen days. Clause 9 empowers the Central Government to appoint a Claims Commissioner (or a Nuclear Damages Claims Commission if the liability exceeds Rs500 crore) for adjudicating claims for compensation and deciding awards.

Opponents like anti-nuclear activist Praful Bidwai and leading strategic expert Brahma Chellaney argue that the government, by channeling the legal and financial liability to the operator is exempting foreign suppliers from the legal and financial fallout of negligence at the cost of the Indian taxpayer.

Former Attorney General Soli Sorabjee has termed the US\$460 million cap as 'ridiculously low' and has argued that the legislation "attempts to dilute the Polluter Pays and the Precautionary Principle," in "blatant defiance of Supreme Court judgments." He reckons that the legislation "would be against the interests and the cherished fundamental right to life of the people of India whose protection should be the primary concern of any civilized government."

Critics have also questioned the ten year time limit to claim compensation for any nuclear damage (Clause 18) and argue that the effects of radiation extend across generations. They are strongly opposed to Clause 35 of the bill that prevents Civil Courts from exercising any jurisdiction over the proceedings of the Nuclear Damages Claims Commission and its final award; which according to them, is tantamount to preventing victims from suing foreign suppliers in Indian courts.

Insights From The Indo-US Young Scholars Dialogue

Yogesh Joshi, Research Scholar, Jawaharlal Nehru University

Keeping in mind that knowledge on nuclear issues does not sediment in time and opinions are not appropriated by certain sections of the society, participation of young scholars in the nuclear debate and their role in providing fresh perspectives on the issue is crucial. Such an opportunity was provided by the Center for Strategic and International Studies, Washington DC, to a group of MPhil students from the Center for International Politics, Organization and Disarmament, School of International Studies, Jawaharlal Nehru University, New Delhi. Under the Project on Nuclear Issues run by CSIS, an Indo-US Young Scholars Dialogue was organized in Washington, DC on 6 and 7 April 2010.

In the process, issues of great consequence for nuclear proliferation and disarmament came up for intense discussion. The panel discussions included issues such as the impending nuclear renaissance and its impact on non-proliferation and disarmament, nuclear terrorism, the crisis enveloping the NPT, the instability-stability debate in South Asia and, the new disarmament momentum and arms control agenda. However, there were certain seminal points which came out of the discussion and in fact provide a glimpse of the vivacity and forcefulness of the dialogue.

The role of India in the non-proliferation regime and the consequences of Indo-US nuclear deal on the NPT was the focus of the discussion. The fundamental point which came up in this regard was that the non-proliferation regime is not limited to the NPT. Whether it is the Nuclear Supplier's Group or the Proliferation Security Initiative, NPT is only one, though a very important element, of the non-proliferation regime and therefore, if the Indo-US deal allows India to be formally a part of the regime, it must be seen as a welcome step.

However, a case against such backdoor entries in to the non-proliferation regime and selective privileging of certain countries being detrimental to the overall health of the NPT regime was also forcefully presented. Arguments were made for a recreation of the NPT or accommodation of the outlier countries such as India, Pakistan, and Israel. There appeared to be healthy consensus on the fact that reshaping of the NPT is surely beyond realms of possibility and accommodation of the outlier countries can lead to the unraveling of the NPT.

Equally important was the issue of nuclear terrorism. Although there appeared to be a consensus that terrorists can acquire or can at least try to acquire nuclear weapons, the common assumptions of terrorists necessarily using Weapons of Mass Destruction was questioned since such acts can erode the very legitimacy of any terrorist organization. The safety

and security of weapons in nuclear armed states with internal conflicts and precarious domestic situations also came up for intense discussion, especially in the context of Pakistan. Without denying the probability of theft or other contingent situations, cogent arguments were made against prospects of terrorists laying their hands on a state's nuclear weapons.

Intense was the discussion on the issue of the advent of nuclear weapons in the South Asian region and the concomitant stability-instability paradox. Worth noting was the participants' focus on the changing nuclear doctrines and the postures of both India and Pakistan, especially the pessimistic scenario it generates when it comes to the matter of nuclear exchange. In other words, the flux in which the nuclear strategy of India finds itself was targeted as the primary source of instability in the regional nuclear scenario. The cacophony which the chaotic domestic political situation engenders, especially the rousing public opinions in the aftermath of terrorist attacks in India, was also situated among the many sources of instability.

As far as the new disarmament momentum was concerned, concerns were raised regarding the mismatch between rhetoric and action of the leading players. The pessimistic opinions were however diluted by the release of the Nuclear Posture Review and the signing of the new START agreement.

Concerns were also raised on the possibility of the new arms control agenda being appropriated by the powerful states to discipline others, especially the so called rogue states, rather than availing the opportunity to take concerted steps towards disarmament. The role of India in the new wave of disarmament also came up for intense scrutiny and questions were raised regarding India's position in this regard. The dilution of the India's No First Use policy and the rapid accumulation of fissile material were considered to be in contention with India's overall position on disarmament.

Over all, the exercise of involving young scholars from the two countries allowed a real flow of ideas and opinions on matters nuclear. Listening to the way others feel about the subject adds much to one's own understanding of the subject and vitiates obvious downfalls of one-sided political analysis. However, a point worth noting is that such dialogues should not over-emphasize on regional dynamics be it of South Asia or any other region. Contextualization helps in retaining focus; however, over-contextualization leads to the creation of a false picture of regional uniqueness. Disarmament may have regional connotations but it is essentially a global issue.

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Nuclear Security Review: A Must For India

Siddharth Ramana, Research Officer, Institute of Peace and Conflict Studies

The recent incident in New Delhi which resulted in the radiation poisoning of five scrap metal workers has highlighted concerns about the country's nuclear safety and security.

The incident coincided with the Nuclear Security Summit which would focus on these issues in the context of preventing terrorists from gaining access to nuclear materials. In addition, a Nuclear Safety and Liability Bill is under consideration by India to fix liability for nuclear incidents in the country. According to the Department of Atomic Energy, the Board of Radiation and Isotope Technology is the principal supplier of the radiological substances to licensed authorities, and follows a strict supply, monitoring and retrieving mechanism to ensure the safe use and disposal of radioactive waste. How radioactive substance managed to find its way into a crowded market in Delhi, and it took five days for the authorities to deal with this problem reflects poorly on India's radiation detection arrangements but also on its management of radiological substances.

Radiological waste is any material which releases radiation that has been or will be discarded as being of no further use. While it may have lost its utility for its authorized purpose, it can become a deadly weapon in the hands of anti-social elements, including terrorists, who can use the material to make a 'radiological dispersal device' or RDD. A RDD is referred to in common parlance as a 'dirty bomb', a bomb which can disperse radiological material over an area and cause death, injury and widespread panic, depending on the lethality of the explosive device. It is established that terrorist groups like al Qaeda have persistently attempted to acquire radiological materials for making a nuclear device, or a far more easily manufactured RDD.

The incident in Delhi is not the first example of radiological material making its way into unauthorized hands. Unfortunately, while the Indian Prime Minister has repeatedly maintained that India has an 'impeccable' record in nuclear security and safety, there have been many documented instances of such incidents that should be of concern to the security establishment.

One of the earliest such incidents involving accidental radiation occurred on 27 July 1991 when a number of labourers were affected by radiation poisoning at the heavy water plant in Rawatbhata in Rajasthan. In November 2009, over 50 workers at the Kaiga Nuclear plant were hospitalized after they showed symptoms of radiation poisoning. Investigations into this incident showed that the workers had in-

gested Tritium, which was maliciously mixed in a water cooler at the plant.

In another incident, workers at the Waste Immobilization Plant (WIP) at Tarapur were affected by radiation when a co-worker had deliberately placed a few drops of radiological waste in the working premises. The incident came to light when instruments kept in the laboratory for measuring radiation registered abnormal radioactivity.

The absence of simple security measures has frustrated investigations into these incidents of radiological poisoning. The Minister of State in the PMO, Prithviraj Chavan, admitted in the Indian Parliament that the government had not installed CCTV cameras in the nuclear facility. According to him "the government would install cameras and CCTVs in all such areas." However, in facilities at Kalpakkam, security norms were not in place when a leak led to the mixing of two kinds of radioactive wastes leading to increased radioactivity in the area. Six workers were affected, and investigations showed that there were no monitors to detect the radiation level in the area, and that the workers were not wearing personal thermo luminescent dosimeters, which registers the radiation received.

Safety and security at nuclear mining sites and facilities are also repeatedly belied by reports of thefts and uranium smuggling rings operating in the states of Jharkhand and Meghalaya. In a shocking admission, former Jharkhand Chief Minister Madhu Koda admitted that a 'uranium-filled analyzer' was reportedly stolen from a federal atomic facility near the densely-populated town of Rajrappa. In addition, facilities at cargo entry points and scrap yards warrant attention by the security agencies regarding the import of radiological waste materials from abroad. The Indian customs authorities have not yet installed radiation detection equipment at ports of entry making it very easy to smuggle dangerous nuclear material into the country.

Repeated incidents involving radiological waste from abroad have failed to jolt any national consideration of this issue. Even more telling is that the National Disaster Management Authority has not been able to move ahead on the subject of radiation terrorism as plainly evident in the slow pace with which the investigations on the Delhi incident is being handled. A major review of the preparedness in India to face the threat of nuclear terrorism and these radiological incidents is strongly warranted, especially due to the proposed increase of nuclear facilities in the country.

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Obama's Nuclear Security Summit

Swaran Singh, Professor, Diplomacy and Disarmament, Jawaharlal Nehru University

The much-hyped two-day Nuclear Security Summit ended amidst unusually heavy security, marking the culmination of an unprecedented and hectic ten days of President Obama's nuclear disarmament diplomacy.

Starting from the release last week of his much-postponed US Nuclear Posture Review 2010 promising the 'non-use' of nuclear weapons against non-nuclear weapons states. Additionally, a US-Russia nuclear disarmament treaty was signed in Prague envisaging further reductions in their nuclear stockpiles. Thereafter, the two-day Nuclear Security Summit with delegations from 47 countries was aimed at reducing the role of nuclear weapons and preventing fissile materials from falling into the hands of terrorists.

To underline its significance, this was the largest Summit organized by the US after President Truman convened the San Francisco Conference of April-June 1945 aimed at finalizing the [Second World] war aims, including setting up of the United Nations and its subordinate agencies. The Obama summit involved hectic parleys between 47 countries, including 37 heads of states and government. A dozen (including India) also had bilateral 'mini' summits with the Obama team. In addition, there were other bilateral summits among the participating countries. This upsurge in the disarmament agenda would justify the Nobel committee's conferral of the Nobel Peace Prize for 2009 on President Obama.

A tangible outcome of this Summit is that Ukraine announced that it would give up its stockpile of highly enriched uranium by 2012, indeed most of it within this year. Kiev had voluntarily surrendered the Soviet nuclear weapons in its territory after the collapse of the Soviet Union, but it still possesses fissile materials that could be used to manufacture nuclear weapons. It has agreed to convert its highly enriched uranium to low enriched uranium for nuclear power generation. In return, Washington has agreed to provide Ukraine with financial and technical assistance to achieve this conversion within the stipulated time. Similarly, the Canadian Prime Minister – who was reluctant to attend this summit till last Friday – announced the return of a 'significant quantity' of Canada's spent fuel to the US by 2018.

These pledges were made in the two plenary sessions that included presentations by select leaders on their national initiatives for either removing nuclear materials or securing their nuclear materials and to deal with the possible risks of nuclear smuggling on their territories. The afternoon session was devoted to evolving international cooperation to prevent nuclear materials from falling into the hands of terrorists. Much

of the work had been accomplished before the Summit started. President Obama effectively used his NPR release and Prague Nuclear Agreement as the backdrop to engaging major world leaders during the two days preceding the Summit and had posited nuclear terrorism as being the most serious threat of the 21st century. Hence, the joint communiqué issued at the end of summit managed to include a broad endorsement of this common threat but also a specific work plan for implementing these agreed objectives within a stipulated time of four years.

Learning from his experience in multilateral diplomacy during the Copenhagen Climate Change Conference last December, his advance diplomacy secured the solid support of all major players this time before his Summit was inaugurated. This also meant that several problem countries were excluded from being invited. The guest list was reportedly based on ensuring regional representation, but seemed like a list of US 'friends and allies'; however, the absence of the Prime Ministers of Australia, Britain, and Israel did not go unnoticed. Also glaring was the absence of countries like Bulgaria, Hungary, Romania, and Uzbekistan – that have major nuclear power generation programs, and are listed by the International Panel on Highly Enriched Uranium as possessing HEU. But most significantly, neither Iran nor North Korea was invited, though they were the center of discussions on the sidelines of the Summit. Instead, 'friendly' states like Armenia and Georgia – with minor nuclear programs – were p a r t i c i p a t i n g .

As regards India, the global groundswell for disarmament and the growing focus on nuclear terrorism suits New Delhi's national security priorities. Given that India will be absent from the NPT Review Conference in New York next month, this Summit provided Prime Minister Singh an opportunity to set out India's views, vision and priorities. Despite several problems in Indo-US relations, the two sides found themselves on the same page in regard to their broad security and development priorities. New Delhi has time to consolidate and bring more substance to its policies.

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Obama-Hu Meeting At The NSS— A Comment

Rukmani Gupta, Research Fellow, Institute of Peace and Conflict Studies

The much publicized meeting between US President Obama and Chinese President Hu Jintao on the sidelines of the Nuclear Security Summit (NSS) has been hailed as a huge success by some in the West. An examination of the outcomes of this bilateral meeting may help understand the reasons that led to such a proclamation.

It has been reported widely in the Western press that “China Pledges to Work with US on Iran Sanctions.” This one development would certainly merit feting the Obama-Hu meeting. Reality however, is far from what headlines would suggest.

China has maintained that the world should be rid of nuclear weapons ever since 1964 (the year in which China tested its own nuclear device). It has moreover, been consistent in its ‘principled position’ on the Iranian nuclear issue. In Washington on Monday, President Hu did no more than reiterate this. No mention of ‘sanctions’ was made by the Chinese.

While emphasizing that China and the US share the same overall goal on the Iranian nuclear issue, President Hu stated that “China hopes various parties will continue to step up diplomatic efforts and actively seek effective ways to resolve the Iranian nuclear issue through dialogue and negotiations.”

It may be suggested that Chinese cooperation in enforcing stricter sanctions against Iran is implicit, but one can also wonder whether too much is being read between the lines, with too little reason for doing so. China has in the past (2006, 2007 and 2008) supported sanctions against Iran, but this has been after protracted negotiations and dilution of Western demands for tougher sanctions. It is unclear how and why this should change in the future.

Even if the US does in fact manage to assure China of continued energy supplies from Saudi Arabia, in lieu of its imports from Iran, China may not be agreeable to entrusting its energy security on promises from the US and its allies. Also, a significant departure from China’s stated position on the utility of economic sanctions and the larger Iranian nuclear question will have repercussions on its relations with other good ‘friends.’

China’s reiteration of a ‘principled position’ on issues such as that of Iran recalls quite forcibly to mind that China has consistently championed the right of nations (even those with a questionable proliferation record) to develop facilities for nuclear energy. Indeed it has been known to extend support for such projects. Despite much talk about terrorism

and the grave threat of nuclear materials falling into the hands of organizations like the al Qaeda, it is curious that the issue found no mention in the statement issued by China.

This when on Monday itself, John O Brennan, Obama’s counter-terrorism adviser, had cited the meeting in August 2001 between Osama bin Laden and two Pakistanis with linkages to Pakistan’s nuclear weapons laboratories, as a clue of the persisting interest that al Qaeda had in obtaining highly enriched uranium or plutonium.

Beyond identifying counter-terrorism as one of the five points proposed for improving China-US relations, the Chinese side makes no mention of the threat of nuclear terrorism. It would seem that neither the Democratic People’s Republic of Korea (DPRK) nor Pakistan (in spite of recent rhetoric on a nuclear arms-race in South Asia) found mention. DPRK and Pakistan are, arguably, two countries with a very poor record on the non-proliferation front.

They are also two states where China is deemed to have significant influence. That nothing more than a commitment to “upholding the international nuclear non-proliferation regime” was reiterated by China and no concrete measures announced to visibly further this goal, can well classify this meeting

a failure – at least on the issue of nuclear non-proliferation.

Where then did the meeting succeed? Most certainly in the realm of China-US bilateral ties. Despite heightened rhetoric on both sides concerning the issue of Renminbi re-evaluation, veiled accusations of currency manipulation and the generally strained atmosphere following US arms sales to Taiwan, the Obama-Hu meeting appeared cordial at all accounts.

Obama reaffirmed American support of the one-China policy and accepted China’s sovereignty in matters concerning its currency. While Hu alluded to the arms sales to Taiwan, no mention of Obama’s meeting with the Dalai Lama was made. The Chinese media categorized the meeting as stabilizing bilateral ties and being representative of the shared long-term interests of the two countries.

All’s well that ends well. Unless of course, one was looking for decisive action to check nuclear proliferation.

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Obama's Nuclear Security Summit: Case For Indo-US Partnership?

Swaran Singh, Professor, Diplomacy and Disarmament, Jawaharlal Nehru University

Much talked of Nuclear Security Summit (NSS) of President Obama opens today in Washington DC. Heads of state and government from 44 of the 47 participating countries – along with UN Secretary General and Director General of the International Atomic Energy Agency – will spend two days deliberating on how to secure nuclear materials from falling into the hands of terrorists. Unlike his predecessors, Obama remains convinced that nuclear terrorism poses the most immediate threat and needs urgent initiatives. This makes nuclear terrorism his top priority opening new vistas for strengthening Indo-US partnership. In spite of his critics and other last minute hiccups, two landmark events of last week – the release of Nuclear Posture Review and the signing of US-Russia Nuclear Agreement in Prague – have significantly boosted credentials of President Obama's vision of a nuclear weapons free world, which remains the guiding spirit behind this summit. This has enhanced his moral authority in leading the world leaders at this summit.

The origins of this summit can be traced to Obama's presidential campaign where he had promised to 'lead global effort to secure all nuclear weapons and materials at vulnerable sites within four years' and conferring of the Nobel Peace Prize evinces his perseverance. Nevertheless, this summit has developed major glitches. The Prime Ministers of three key allies – Australia, Britain, and Israel – are not attending it. Given China's annoyance with Obama meeting Dalai Lama last February and US arms supplies to Taiwan, President Hu Jintao did not confirm his participation until last week. Even Canadian Prime Minister's participation was confirmed only on Saturday morning. In case of Australia and Israel this is a last minute decision, suspected of being politically motivated.

Moreover, given the nature of its agenda, i.e. understanding and preventing nuclear terrorism, deteriorating situation of another US ally – Pakistan – is expected to come under scrutiny. Ideally, the summit is not supposed to focus on any individual nations yet North Korea and Iran are expected to remain writ large in its deliberations. Lot of hard work has already gone into developing a common understanding. Preparatory meetings of Sherpa (point persons) at Vienna, Washington, Tokyo and Hague ended last Friday in Washington and have evolved certain common text for their leaders to sign. India's Foreign Secretary, Nirupama Rao, has been the Indian Sherpa in all these meetings. This continued engagement by India has ensured that discussions do not drift towards India's non-signing of nuclear nonproliferation treaty and comprehensive test ban treaty. This remains especially critical as India's policy stance on both of these treaties has

been evolving in recent past but the change is not yet firmed up for any formal announcement or public scrutiny.

It suits India, therefore, to take a high moral ground commensurate with its clean record and India is going to propose the setting up of an International Safety Center in India. Prime Minister Singh had made his interest in the summit clear from the very beginning. As the role of civilian nuclear power expands in ensuring energy security, he says, nuclear nonproliferation becomes part of addressing the "developmental challenges of our times." There is also need to reinforce public faith in the positive side of nuclear science. India has already been recognized as a 'responsible nuclear power' with 'impeccable record of security, safety and non-proliferation' and has an opportunity to revive its global leadership in disarmament diplomacy.

Moreover, given the nature of its agenda, i.e. understanding and preventing nuclear terrorism, deteriorating situation of another US ally— Pakistan— is expected to come under scrutiny. Ideally, the summit is not supposed to focus on any individual nations yet. North Korea and Iran are expected to remain writ large in its deliberations. Lots of hard work has already gone into developing a common understanding.

To this effect India has already increased its visibility at the summit. Originally, Prime Minister Singh was scheduled to meet President Obama briefly at the margins of the two-day summit. But given India's concerns about various issues – like denial of access to Lashkar-e-Taiba operative David Headley, rumors about Pakistan inching towards an India-like nuclear deal, hiccups on India's role in Afghanistan and so on – as also due to intervention by State Department, two sides held a mini Indo-US summit yesterday discussing bilateral, regional and global initiatives. Among these the two made a major progress in implementing their nuclear as they have concluded negotiations on Reprocessing Agreement.

Singh and Obama now share a certain chemistry. In his Keynote address to the US-India Business Council meeting last month, US Deputy National Security Adviser, Michael Froman, had declared that US considers "Prime Minister Manmohan Singh's attendance as key to the success" of the summit. In tomorrow's first plenary session, Prime Minister Singh will be among the select few to make an intervention outlining India's track record in dealing with nuclear security. No one is expecting this summit to produce lasting solutions. But this two-day summit will surely leave an important footprint in building consensus from amongst such a diverse group of countries on the need to (a) tighten their national controls over the export of nuclear materials, (b) to increase coordination in surveillance efforts and (c) encourage intelligence sharing against risks of nuclear materials and components potentially diverting to any terrorist organization. Given that India will not be present at the NPT Review Conference next month this presents a golden opportunity for India to engage in this inter-national discourse in issues of nuclear proliferation and nuclear security.

India-South Korea Relations: The Nuclear Enterprise

Jasbir Rakhra, Research Officer, Institute of Peace and Conflict Studies

South Korean President Lee Myung-bak's visit on the occasion of India's 61st Republic Day marked the beginning of a new era in India-South Korea relations. His visit not only brought the expansion of trade and commerce but also a possible civilian nuclear tie up between the two countries. India and South Korea are politically and economically liberalized. Trade between the two has thrived right from the beginning of this decade which is evident from the various treaties and MoUs signed by the two countries. Bilateral trade between the two countries amounted to US\$15.6 billion in 2009 and the targets have been set to double it to US\$30 billion by 2014. Moreover, the South Korean Pohang Iron and Steel Company (POSCO) steel project in the southern state of Orissa is the single largest foreign direct investment in India amounting to US\$12 billion.

The proposed India-South Korea nuclear cooperation would be a stepping stone in transforming the bilateral relations between the two nations from an economic partnership to the level of a strategic partnership. In fact, South Korea supported the Nuclear Supplier Group (NSG) waiver offered to India to engage in nuclear trade and commerce. India has already signed civil nuclear agreements with the United States, Russia, France, Argentina, Kazakhstan, Mongolia and Namibia, while the civil nuclear cooperation deal with Canada is expected to be completed by June this year. Russia is already building two reactors and a deal has now been signed for it to build four more reactors at Kundankulam. On the other hand, India has much to gain from AREVA NP, Areva's subsidiary in charge of building the European Pressurized Reactors (EPR) in France, an advanced third generation nuclear reactor.

India has a lot to gain from a civil nuclear cooperation with South Korea. South Korea is the world's fifth largest atomic energy producer which accounts for 40 per cent of South Korea's power generation. The Korea Electric Power Company (KEPCO) is the flag bearer of South Korean nuclear power generation and it recently secured the US\$40 billion nuclear deal to build and operate four nuclear reactors in the United Arab Emirates (UAE). South Korean victory in the UAE nuclear bid is remarkable since the French AREVA and United States-Japan reactor supplier GE-Hitachi were also engaged in discussions with the UAE on the nuclear deal. According to Mohamed al-Hammadi, Chief Executive Officer of the Emirate Nuclear Energy Corporation (ENEC), the reason behind the Korean victory is its adherence to the safety norms and its demonstrated ability to meet the UAE programme goals. Moreover, South Korea has always been a safer choice for UAE. South Korea offers

a long term commitment and does not dominate the region politically whereas as UAE might have been skeptical about the nuclear deal with United States which politically dominates the region; moreover, UAE-US nuclear cooperation agreement does not provide an unconditional access to US nuclear technology.

Further, KEPCO's APR-1400 (an Advanced Pressurized Water Reactor) is a much talked about design in the nuclear industry. This is a third generation reactor and bears the US Nuclear Regulatory Commission design certification. Its cost is expected to be 10 to 20 per cent less than the Korean Standard Nuclear Plant/Optimized Power Reactor-1000 (KSNP/OPR-1000) which apparently was designed for Asian markets, particularly Vietnam and Indonesia. According to the Korean government data it is reported that the cost of APR-1400 at the end of 2009 is US\$2300/kW as compared to US\$2900/kW for Areva's EPR and US\$3580/kW for GE-Hitachi Advanced Boiling Water Reactor (ABWR). Moreover the power generation cost per kilowatt-hour of APR is considerably low as compared to Areva's EPR or GE-Hitachi's ABWR. It is 3.03 cents/kW-h as compared with an estimated 3.93 cents/kW-h for Areva's EPR and 6.86 cents/kW-h for GE-Hitachi's ABWR.

India can therefore reap huge benefits from the civil nuclear cooperation with South Korea. It would be cost effective, reliable and equipped with world-class safety features. With the entry of KEPCO in India, competition with other stake holders like Areva is foreseen, it cannot however be termed as a negative effect. It would in fact project India as the destination for nuclear commerce for other nations. Electricity demand in India has been increasing rapidly. The shortage of the fossil fuel is driving the nuclear investment in India. India has been largely excluded from nuclear commerce for almost thirty-four years. With the signing of India-US nuclear deal, the gates for nuclear commerce has opened for India. India produces 4,120MW of nuclear power now and aims to generate 20,000MW of nuclear power by 2020. To achieve this aim, the country needs more investments in nuclear sector. The initiative taken by Prime Minister Manmohan Singh and President Lee Myung-bak is an exceptional step towards meeting the growing energy needs of India and building a lasting relationship between the two countries.

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Major Events in South Asia - April 2010

Nuclear Disarmament/Proliferation/ Security

PAKISTAN

6 April 2010

Pakistan's strategic assets in safe hands: NCA

The 17th meeting of the National Command Authority (NCA) on Monday expressed full confidence in the arrangements for custodial controls as well as the safety and security of Pakistan's strategic assets, and the effectiveness of Pakistan's strategic deterrence. The meeting chaired by Prime Minister Yousaf Raza Gilani reviewed in detail, the policies and measures in place for the safety and security of nuclear materials and facilities, said a press release issued by the Inter-Service Public Relations. The NCA reiterated that, as a nuclear-armed state with advanced nuclear technology and expertise, Pakistan was fully cognisant of its responsibilities. The nuclear safety, security and non-proliferation measures put in place by Pakistan were supported by extensive legislative, regulatory and administrative framework. (*Daily Times, 6 April 2010*)

Australia blocks shipment to Pakistan over weapons fears

Australia has blocked a shipment of scientific equipment to Pakistan over fears it could be used to help build weapons of mass destruction, a spokesman for Defence Minister John Faulkner said Tuesday. The government used the 1995 Weapons of Mass Destruction (Prevention of Proliferation) Act to stop an Australian company exporting instruments and accessories to a Pakistani firm, he said. "The minister forms the view, based on advice from the Department of Defence supported by other agencies, that there are unacceptable risks associated with the provision of these goods," the spokesman told AFP. It is the fourth time the minister has used the little-known act to block a shipment going overseas. On previous occasions, the goods had been destined for Iran or countries deemed at risk of passing them on to Iran. (*Agence France-Presse, 6 April 2010*)

12 April 2010

Threat to Pak N-arsenal leaves India worried

India is "very worried" about the security of Pakistan's nuclear arsenal and the prospect of it "leaking" to terrorist entities like al-Qaida and its affiliates. This will be raised by India on the sidelines of the nuclear security summit, which started here on Monday. India will flag these concerns, not at open plenary sessions but quietly lobbying with other nations, because the summit technically does not allow for naming specific countries. On the whole, India sees the nuclear summit as a vindication of its long-standing position that the security of nuclear materials is key to ensuring the goals of both non-proliferation and disarmament. The PM will have separate meetings with Kazakh president Nursultan Nazarbayev on Sunday, Canadian PM Stephen Harper and French president Nicholas Sarkozy

on Monday. The Kazakh meeting is important, because not only has India signed important nuclear deals with Kazakhstan, but the Central Asian country recently withdrew its candidature from the non-permanent seat of the UN Security Council, leaving India with a clear field. (*The Times of India, 12 April 2010*)

13 April 2010

Pakistan makes surprise offer of nuclear fuel services

Pakistan has said that it has acquired advanced nuclear fuel cycle capability and can offer it to the rest of the world under IAEA safeguards. The offer, contained in a national statement presented at a two-day summit which concluded in Washington on Tuesday, reflected Islamabad's desire to gain recognition as a nuclear state. "As a country with advanced fuel cycle capability, Pakistan is in a position to provide nuclear fuel cycle services under IAEA safeguards, and to participate in any non-discriminatory nuclear fuel cycle assurance mechanism," the document said. At the summit, Pakistan also reiterated its proposals for establishing a strategic restraint regime in South Asia. The policy paper released during the conference stressed that such a regime would "promote nuclear and missile restraint, a balance in conventional forces, and conflict resolution". (*The Dawn, 13 April 2010*)

16 April 2010

Pakistan also offers nuclear security skills to world

In a policy paper presented to leaders from nearly 50 nations, Pakistan offered to share with other states its nuclear security skills, particularly in prevention, detection and response to illicit trafficking. In a similar document, presented at the Washington nuclear security summit, which ended on Tuesday, Pakistan declared that it had acquired advanced nuclear fuel cycle capability and can offer it to the rest of the world under IAEA safeguards. "Pakistan is ready to share with nations its competence in the area of nuclear security, particularly prevention, detection and response to illicit trafficking," said the paper Prime Minister Yousuf Raza Gilani presented at one of the sessions at the Washington summit earlier this week. The same document contained two other equally significant points: nations need to cooperate with each other in acquiring reliable nuclear security and that India needed to work with Pakistan for protecting South Asia against a nuclear disaster. (*The Dawn, 16 April 2010*)

21 April 2010

Pakistan Could Still Join Fissile Material Ban Talks, U.S. Says

Pakistan could be persuaded to allow discussion of a potential global ban on production of nuclear-weapon material, despite Islamabad's concern that such an arrangement could give a strategic advantage to neighboring rival India, the U.S. ambassador to the international Conference on Disarmament said yesterday (see GSN, April 14). The 65-nation conference in 2009 broke a deadlock that had lasted for more than 10 years, agreeing to a work plan that addressed four issues: nuclear disarmament, a fissile material cutoff pact, the prohibition of space-based weapons, and an agreement by nuclear-armed states not to use their strategic weapons against nations that do

not possess such armaments. Pakistan initially endorsed the plan, but later withdrew its consent and demanded further consideration of the program. As the conference makes its decisions by consensus, Pakistan could ensure that a fissile material production ban would not undermine its strategic security, U.S. Ambassador Laura Kennedy said. (*Global Security Newswire*, 21 April 2010)

30 April 2010

Nuclear danger from Pakistan (Kanwal Sibal)

Nuclear terrorism as dramatic a danger as it is being made out to be? The idea that nuclear material could be used in a terrorist attack is no doubt frightening, and in theory it cannot be ruled out. The malevolence of terrorist attacks in total disregard for human life shows the lengths to which their perpetrators can go. The ready supply of suicide bombers shows the intensity of terrorist motivation. But, even so, was US President Barack Obama justified in organising the big Nuclear Security Summit in Washington on April 12/13, with leaders from 47 countries present? The US, traumatised by the September 11 attack, feels particularly vulnerable to all conceivable forms of terrorism. It is responding with an array of security measures that at times seem excessive and impractical, like the Container Security Initiative. The Nuclear Security Summit was, at one level, a response to deep-seated public anxiety in the US about a terrorist attack against the country with nuclear materials. (The New Indian Express, 30 April 2010)

INDIA

5 April 2010

Manmohan to attend nuclear security summit

Prime Minister Manmohan Singh will attend a global meeting in Washington convened by U.S. President Barack Obama next week aimed at strengthening national measures on protecting nuclear material and combating their trafficking. The initiative, while adhering to multilateral instruments and norms, would help in the expanded use of civil nuclear energy, Foreign Secretary Nirupama Rao told newsmen here on Sunday. The two-day summit beginning on April 12 would not be country-specific but would be aimed at eliminating clandestine proliferation and trafficking in nuclear weapons and material. Asked why Iran and the Democratic People's Republic of Korea were not invited and if the issue was raised during the two preparatory conferences, Ms. Rao said discussions were held in the "global context." (*The Hindu*, 5 April 2010)

7 April 2010

India not going to join NPT "for quite some time": US

The United States on Wednesday said India is not going to join the Nuclear Non-proliferation Treaty (NPT) "for quite some time", but wanted New Delhi to work with the Obama administration to strengthen the non-proliferation regime. A day after the US underlined its determination to strengthen the nuclear non-proliferation regime, a top US official said Washington would not push New Delhi to sign the Comprehensive Test Ban Treaty (CTBT) until it is rati-

fied by the American Senate. Appreciating India's principled opposition to the NPT, Robert J Einhorn, Special US Advisor Non Proliferation and Arms Control, said that New Delhi is unlikely to join the pact. "India's not going to join the NPT for quite some time, if at all. We understand that. But we want India to work with us in strengthening the nonproliferation regime," Einhorn told foreign journalists in Washington. (*Hindustan Times*, 7 April 2010)

8 April 2010

India, US to put forth perspectives on nuclear safety

Facing trans-national threats, India and the US will be sharing their perspectives on how to keep nuclear weapons out of the reach of terrorists during the upcoming Summit of key countries on nuclear security in Washington. "Indian Prime Minister Manmohan Singh and US President Barack Obama will meet in days ahead to put forth their perspectives on nuclear proliferation and nuclear safety," US Ambassador to India Timothy J Roemer said here. Pointing that both India and USA faced "trans-national threat," Roemer said, "we have experienced it in New York and you in Mumbai." He said the countries needed to work together to try to make sure that it couldn't be a nuclear or chemical crisis. "That will be talked by the two great leaders," the ambassador said. (*Press Trust of India*, 8 April 2010)

9 April 2010

The nuclear family (Rajesh Rajagopalan)

Next week, Prime Minister Manmohan Singh will be attending the nuclear security summit in Washington DC. The summit represents a good opportunity for India to continue its transition from being a target of the global nuclear non-proliferation order to being one of its managers. But to make that transition, India needs to be a little more aggressive and venturesome in its diplomacy than it has been so far. The summit is the culmination of more than a year of preparation by the Obama administration and represents one part of a multi-pronged effort, all aimed at creating the necessary climate for a successful nuclear non-proliferation treaty (NPT) review conference, which is scheduled to take place in a few weeks. NPT review conferences (RevCons) are held every five years as a stock-taking effort by the NPT members and the last one in 2005 was a disaster. (*Indian Express*, 9 April 2010)

10 April 2010

"India has impeccable nuclear safety record"

Prime Minister Manmohan Singh on Friday stated that India had an impeccable record of security and safety which reflected the country's conduct as a responsible nuclear power. His statement on the eve of his departure for the U.S. to attend the Nuclear Security Summit comes against the backdrop of a "radiation leak" in the national capital earlier this week. The Prime Minister will then leave for Brazil to attend the India-Brazil-South Africa (IBSA) and Brazil-Russia-India-China (BRIC) summits being hosted by Brazilian President Lula da Silva in Brasilia. Dr. Singh said the Washington Summit's focus on nuclear terrorism and proliferation of sensitive nuclear material and technologies were legitimate concerns which required firm responses. India being a consistent advocate of

complete and universal global nuclear disarmament was encouraged by the fact that this approach was finding greater resonance today. "We will continue to call for more meaningful progress in this direction," he added. (*The Hindu*, 10 April 2010)

12 April 2010

Manmohan-Obama bilateral focused on nuclear security, Afghanistan

Nuclear security and non-proliferation, Afghanistan, food security, and poverty reduction featured prominently in the bilateral discussions between Prime Minister Manmohan Singh and President Barack Obama on Sunday, Ben Rhodes, Deputy National Security Advisor for Strategic Communications, told media during a teleconference. Mr. Obama had, in particular, thanked Dr. Singh for the humanitarian and development work that India has been undertaking in Afghanistan, Mr. Rhodes added. At the meeting both leaders emphasised the strategic importance of the India-United States relationship to the entire world, he said. The Singh-Obama meeting was the first in series of bilateral talks that President Obama is holding prior to the kick-off of the Nuclear Security Summit of April 12-13. (*The Hindu*, 12 April 2010)

13 April 2010

India to set up Global Centre for Nuclear Energy Partnership: PM

Demonstrating India's responsible behaviour, prime minister Manmohan Singh today announced setting up of a 'Global Centre for Nuclear Energy Partnership' for conducting research and development of design systems that are secure, proliferation resistant and sustainable. As soon as Singh made the announcement at the Nuclear Security Summit, US President Barack Obama intervened to welcome it, saying "this will be one more tool to establish best practises" in the quest for nuclear safety. Addressing the Summit convened by Obama here, Singh said the Centre will consist of four schools dealing with Advanced Nuclear Energy System Studies, Nuclear Security, Radiation Safety and application of Radioisotopes and Radiation Technology in areas of healthcare, agriculture and food. The Centre is visualised to be a state-of-the-art facility based on international participation from IAEA and other interested foreign partners. (*Daily News and Analysis*, 13 April 2010)

Nuclear Energy/Environment

4 April 2010

Kudankulam nuclear power project delayed

The delay in the arrival of components for the upcoming 2,000 MW nuclear reactor at Kudankulam in Tamil Nadu has led to the postponement of the commissioning of the first unit of the project by a few months, an official said. Service providers for the project like the Bharat Heavy Electricals Ltd (BHEL) are clueless about the possible date for the arrival of the components. The Nuclear Power Cor-

poration of India Ltd (NPCIL) is building two 1,000 MW light water nuclear reactors in Kudankulam, about 600 km from Chennai, in Tirunelveli district of Tamil Nadu with Russians supplying all the components of the plant, including the nuts and bolts. "Nearly 30 per cent components on the piping side are yet to come from Russia, as far as our portion of the contract is concerned. We are not informed as to when they would arrive," BHEL executive director P R Shriram told reporters on Saturday. (*Hindustan Times*, 4 April 2010)

6 April 2010

NPCIL-NTPC to build two nuclear plants

Nuclear Power Corporation of India Limited (NPCIL) and NTPC joint venture is likely to build two 700 MWe nuclear power plants at a site identified by the Department of Atomic Energy (DAE). Talking to reporters on the sidelines of the India Energy Congress here on Tuesday, Department of Atomic Energy Secretary Srikumar Banerjee said one of the sites identified by the DAE for 2x700 MW plant would go to the NPCIL-NTPC joint venture company. NPCIL and NTPC had entered into an agreement in February last year to start a joint venture company that will build nuclear power plants. Mr. Banerjee also deliberated on the advantages of nuclear power in a growing economy in view of the climate change-induced energy scenario. (*The Hindu*, 6 April 2010)

7 April 2010

NTPC JV may get site for nuclear power project

Central utility NTPC's plan to enter nuclear power generation business might take off soon, with the government planning to allocate a site for the development of 2X700 mw capacity to the proposed NTPC-NPCIL joint venture (JV). The department of atomic energy (DAE) is in the process of finalising site for the JV. "One of the sites identified by the DAE for 2x700 mw plant will go to the NPCIL-NTPC JV," DAE secretary Srikumar Banerjee said on the sidelines of the India Energy Congress here on Tuesday. In a twin strategy to reduce its expanding carbon footprint and bolster fuel security for its power plants, India's largest thermal power generator NTPC has drawn up plans to reduce its dependence on coal. As part of the strategy, it has planned forays into non-conventional power generation like renewable and nuclear. (*The Financial Express*, 7 April 2010)

12 April 2010

'Radioactive gas can detect nuclear tests'

In a breakthrough, scientists have isolated an exotic radioactive gas which, they claim, would make it easier to detect underground nuclear tests from air samples. A global network of monitoring stations constantly samples the air for signs of underground nuclear tests. One thing the stations look for is the radioactive gas xenon-133. Nuclear explosions produce an excited form called xenon-133m, in which the atomic nucleus is boosted to a higher-energy state, but it is not known exactly how sensitive detectors are to this form as there has been no way to make pure samples of xenon-133m with which to test them. Now, Kari Perrvi of the Radiation and Nuclear Safety Authority in Finland has solved the problem. The team placed a cloud of xenon-133 atoms inside a magnetic trap and then

jolted it with oscillating electric and magnetic fields; this pushed out the unexcited form, leaving only the excited form behind, the *New Scientist* has reported. (*The Hindu*, 12 April 2010)

15 April 2010

Lessons to be learnt from Delhi radiation incident (K.S. Parthasarathy)

At 12:45 hrs on April 7, 2010 the Atomic Energy Regulatory Board (AERB) received a fax message from Indra-prastha Apollo Hospital, Delhi stating that a scrap metal dealer admitted to the hospital showed symptoms suspected to be caused by radiation exposure. Six more workers who also exhibited similar symptoms were admitted elsewhere. On receiving the information, two AERB officers who were already in Delhi inspected the shop and its surroundings, identified high radiation levels and promptly shielded some suspected high radiation locations with metal sheets to reduce the radiation levels. As per the procedure in place, a team of scientists from Bhabha Atomic Research Centre (BARC) and the Narora Atomic Power Station, mobilized by the Crisis Management Group of the Department of Atomic Energy (DAE) and scientists from AERB visited the site again and restored normalcy by safely removing the sources into appropriately shielded containers. (*The Hindu*, 15 April 2010)

24 April 2010

Power from first Kudankulam unit by December

It is indeed a good news for the energy managers of power-starved Tamil Nadu. Electricity will start cascading from the first unit of the Kudankulam Nuclear Power Project (KKNPP) by December. The mandatory pre-commissioning milestone event of loading of 'dummy fuel assembly' into the reactor core of the first of the 2 X 1,000 MWe unit began on Friday. "Since we've planned to complete the loading of dummy fuel assembly by mid-May and commence the loading of actual fuel of enriched uranium assemblies during September, we'll be in a position to commission the first reactor by December," Chairman and Managing Director, Nuclear Power Corporation of India, Shreyans Kumar Jain told reporters at the KKNPP site. "About 50 per cent of the power generated by this reactor will be given to Tamil Nadu." Thermo-hydraulic tests A total of 163 dummy fuel assemblies, each 4.57 metres long and weighing about 705 kg, are being loaded into the reactor for full-scale thermo-hydraulic tests of the reactor systems, prior to the loading of actual fuel, to assess the design performance of the systems. (*The Hindu*, 24 April 2010)

26 April 2010

Delhi radiation exposure: One patient dies

A man hospitalised after radiation exposure in the national capital earlier this month died due to multi-organ failure today, doctors said. Rajender, 35, a worker at a shop in Mayapuri scrap market, died at the All India Institute of Medical Sciences. He was shifted there on April 13 from the DDU hospital, where he was initially admitted. "He died due to multi-organ failure at around 9.30 pm. His con-

dition had deteriorated. His TLC count and his platelet count had dropped drastically and he had developed pneumonia. There were signs of kidney and liver function impairment. He was on ventilator and was being administered multiple drugs," a doctor with the hospital said. Four other radiation exposure patients are still admitted in AIIMS, while Deepak Jain, the owner of the scrap shop from where radioactive material Cobalt-60 was recovered, is at Apollo Hospital. (*Press Trust of India*, 26 April 2010)

30 April 2010

Radioactivity detectors at all ports soon: DAE

In the wake of the Delhi radiation leak experience and in a bid to prevent illegal import of radioactive materials into the country, the Department of Atomic Energy (DAE) on Thursday said it will install necessary equipment to detect radioactive elements at all air, sea and land ports. "We have initiated work to set up detection units at all ports across the country. Very soon, land, sea and airports will have radioactive substance detectors to prevent its unauthorised entry into the country," said Dr Srikumar Banerjee, Chairman, Atomic Energy Commission & Secretary to DAE. Speaking on the sidelines of a handing over ceremony organised by MTAR Technologies, an aerospace and engineering firm, here in the city, he said, "A lot has to be done in terms of checking all ports where scrap is being imported. Currently, none of the ports has radioactive detection equipment." The move to equip ports with detectors comes three weeks after Cobalt-60, a radioactive substance, was discovered in a scrap yard in Delhi. (*The New Indian Express*, 30 April 2010)

Nuclear Cooperation/Treaties/ Agreements

1 April 2010

India seeks nuclear pact with Japan

India wants Japan to shun its apprehensions and join hands in the atomic energy sector. This would stimulate the Japanese economy as well as provide muscle to the bilateral strategic partnership, said former Foreign Secretary Shyam Saran, who was the Prime Minister's Special Envoy on Indo-U.S. nuclear issues. "We see Japan as a strategic partner contributing to India's economic and social development. It is against this background that we must explore the prospects for civil nuclear energy cooperation," Mr. Saran observed at a seminar on Indo-Japan cooperation in peaceful use of nuclear energy organised by the influential International Friendship Exchange Council (FEC) in Tokyo. He was fielded as part of the Foreign Office's recent approach of asking veteran diplomats to articulate India's position internationally on various issues. (*The Hindu*, 1 April 2010)

5 April 2010

U.S.-India Reprocessing Deal Spurs Complaints, But Congressional Rebuff Unlikely

A number of influential U.S. lawmakers are expected to protest an agreement announced last week that would allow India to reprocess spent nuclear fuel purchased from the United States, but the deal is widely expected to proceed (see GSN,

March 30). Political pushback -- potentially from both Democrats and Republicans -- could come in the form of an official letter to U.S. President Barack Obama or Secretary of State Hillary Clinton, according to Capitol Hill sources. Issue experts also would not rule out the possibility of hearings being held on the matter, perhaps most likely in the Senate. Such reprocessing agreements are relatively rare, having previously been granted by Washington only to its closest allies in Europe and Japan. (*Global Security News-wire*, 5 April 2010)

6 April 2010

Revisions in N-liability bill a must

After the national furore, the government has begun to re-draft its nuclear-accident liability bill. It was left with little choice. Unlike the 123 agreement or the latest reprocessing accord with the US, the proposed new law on liability has to go before Parliament for scrutiny and approval. The bill, circulated to members of Parliament last month, attempted to fashion a new principle in international law — profits are private, accident-related liabilities are all public. The bill gave foreign reactor suppliers a free ride at the Indian taxpayer's expense. Limits on liability traditionally have been designed in the world to limit the financial risks of private firms engaged in the business of nuclear-generated electricity. But in India the state intends to own and operate all nuclear power plants. (*The Economic Times*, 6 April 2010)

Australia not to supply uranium to India

Australia on Tuesday ruled out changing its policy and said it would not supply uranium to India, which is seeking fuel for its nuclear energy programme, a media report said. Australian Trade Minister Simon Crean told reporters in Canberra: "There is no prospect for a change. We have consistently said, made this clear to India that we, because of our policy, cannot supply to countries that are non-signatories to the non-proliferation treaty," the Australian Financial Review quoted him as saying. In August 2007, the government of John Howard agreed to sell uranium to India subject to the finalisation of a US-India nuclear deal and the conclusion of a bilateral Australia-India nuclear safeguards agreement. But Kevin Rudd's government overturned the decision after taking power in December that year. (*Hindustan Times*, 6 April 2010)

CPM willing to consider changed N-liability bill

Prakash Karat on Tuesday said the CPM was willing to take another look at the nuclear liabilities bill if the government reworked it, but would oppose its introduction in Parliament in the present form. In conversation with HT, the CPM general-secretary said, "We are not in favour of the introduction of the bill in the present form. Let the government come back to the political parties with the changes they intend to make to the bill. So far, we haven't heard from the government on the issue". Karat said the Civil Liability for Nuclear Damages Bill was flawed in not fixing the liability on foreign suppliers in case of a nuclear accident, and that the Centre should redraft the bill the same way it was redrafting the Food Security Bill. About the BJP

being primarily opposed to the capping of liability, Karat said "There is a blanket exemption given to the foreign suppliers in the case of any nuclear accident. (*Hindustan Times*, 6 April 2010)

8 April 2010

No nuclear deal with Pakistan, says US

Hours after Pakistan Prime Minister Yousuf Raza Gilani said that his country "qualifies" for a civilian nuclear deal with the US, like that of India, the Obama administration in a blunt message told it that such a deal is not on platter of its talks with Islamabad. "We are focused on Pakistan's energy needs, but, as we said last week, right now that does not include civilian nuclear energy," assistant secretary of state for public affairs P J Crowley told reporters. A high-level Pakistani delegation led by the country's foreign minister Shah Mehmood Qureshi was here last month to launch the US-Pak Strategic Dialogue. The Pakistani delegation sought a civil nuclear deal with the US on the lines of that of India. The Obama administration did not give any concrete assurance to Qureshi, neither did it totally reject the request. (*The Indian Express*, 8 April 2010)

India could gain from US-Pakistan nuke deal (W Pal Sidhu)

Despite all the rhetoric of a new strategic partnership between Islamabad and Washington the much-coveted prize of a civilian nuclear deal was politely, but firmly, denied to the visiting high-level Pakistani delegation by the US. Although the Pakistani establishment claimed they were satisfied with the negotiations, including on the nuclear deal, there was clear disappointment, especially as the US-Pakistan no-deal was in stark contrast to the announcement just days earlier that New Delhi and Washington had ironed out the final details of the India-US civilian nuclear deal which would allow India to reprocess nuclear material that has been used in its reactors. Although this might sound like a significant advantage to India, it is in fact New Delhi which is catching-up. More importantly, if we were to step back for a moment and look at the issue dispassionately, a similar deal between Pakistan and the US may not be such a bad idea at all from India's strategic point of view. (*The Wall Street Journal*, 8 April 2010)