Perils of ‘Nuclear Renaissance’ and the Indo-US Civil Nuclear Deal

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For more than half a century, the role of nuclear technology in civilian and military realms of ‘power’ has created more confusion than consolation. Nuclear capability, today, is not just a matter of pride, but it has become an inalienable component of a new international division of ‘labour’ dictated by techno-capitalism. The weapons of mass destruction (WMD), as they have come to be called, are not only advanced qualitatively (from those that preceded them), but they have other attributes that have a direct bearing on the very survival of the planet. The destructive capacity of nuclear weapons is immeasurably high today making the ‘territorial state’ open to total destruction. It has been estimated that the number of countries having the necessary techno-economic capability to sustain a nuclear military programme has increased dramatically over years—it is as high as twenty though the number of acknowledged nuclear weapon states has grown from three to nine (NRDC 2006). Alongside this, however, it has been fervently maintained that the growing gap between increasing demands for energy and declining conventional sources of it has put enormous pressure to exploit nuclear energy (Ritch 2001). The advocates of ‘nuclear renaissance’ in the West argue that the diffusion of nuclear technology, know-how, reactors and materials has substantially reduced the cost and difficulty of developing nuclear capabilities.

However, in the current debate on ‘nuclear renaissance,’ what is not made public is its high (social and environmental) costs and its catastrophic impact on the planet, for ‘nuclear renaissance’ calls for not only the diffusion of nuclear technology and materials across wider territorial spaces, but a strategic shift from a fossil fuel-based world energy order to a nuclear-based energy order. It is in this context that the United States and other members of the prestigious ‘nuclear club’ are out to reap the windfall of ‘nuclear renaissance’ by winning over new partners in the global nuclear trade. India is a case in point. What is envisaged through this partnership is not just trade monopoly in a vital strategic sector, but new forms of control and hegemony in the world energy and security order that is in the making. This paper tries to place the controversial India-
United States nuclear deal within this shift in the global ‘strategic’ partnership keeping in perspective the potential benefits and risks to India.

**Background of the 123 Agreement**

The prospects of an India-US nuclear deal (hereafter 123 Agreement) had come to the surface during the visit of Indian Prime Minister Manmohan Singh to the United States in July 2005. The Joint Statement issued by President Bush and Prime Minister Manmohan Singh declared “their resolve to transform India-US relationship and establish a global partnership.” President Bush assured India that he would “seek agreement from Congress to adjust US Laws and policies, and US would work with its friends and allies to adjust international regimes to enable full civilian nuclear energy cooperation and trade with India” (India, MEA 2006: 89). Prior to Prime Minister’s visit, India had already signed a ten-year agreement for “A New Framework for US-India Defence Relations” which involved the constitution of a new “Defence Procurement and Production Group” under the US-India Defence Policy Group (India, MEA 2006: 90). Much before these initiatives, India and the United States had been engaged in several rounds of strategic dialogues consequent upon India’s Pokhran-II nuclear tests. Jaswant Singh, India’s External Affairs Minister, and Strobe Talbott, US Deputy Secretary of State, were designated as representatives to conduct this dialogue and the talks (India, MEA 2001: 71-72). The net impact of these dialogues and initiatives is that India has already become a willing partner in Washington’s new global strategic schemes (Singh 1998: 41-52; Talbot 1999: 110-122). No wonder, there has been an intense opposition to the 123 Agreement within the country.

In August 2007 India and the US released the text of the 123 Agreement simultaneously (India, MEA 2007). The agreement says India and the US will engage in full civil nuclear cooperation activities covering nuclear reactors and aspects of the associated nuclear fuel cycle including technology transfer on an industrial or commercial scale between the governments or authorised persons. The agreement will be implemented in a manner that does not hinder or interfere with India’s nuclear programme for military purposes developed independent of the civil nuclear deal. Under the agreement, India can develop strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of its reactors. The 22-page agreement provides for termination of the nuclear cooperation with one-year notice period but prior to that the two sides will hold consultations on the circumstances, including changed security environment that may lead to the cessation. The US is committed to engage with the Nuclear Suppliers Group (NSG) to help India to obtain full access to
the international fuel market, including reliable, un-interrupted and continual access to fuel supplies from firms in several nations. The US will have the right to seek return of nuclear fuel and technology but it will compensate India promptly for the “fair market value thereof” and the costs incurred as a consequence of such removal (India, MEA, 2007). The US is expected to join India in seeking to negotiate with the International Atomic Energy Agency (IAEA) an India-specific fuel supply agreement. The US will support an Indian effort to develop a strategic reserve of nuclear fuel to guard against any disruption of supply over the lifetime of India’s reactors. The civil nuclear deal will remain in force for a 40-year period and can be extended by an additional 10 years. In case of disruption of fuel supplies, the US and India would jointly convene a group of friendly nations such as Russia, France and the United Kingdom to pursue measures to restore fuel supply. India is to establish a new national facility dedicated to reprocessing safeguarded nuclear material under IAEA safeguards. The agreement allows enrichment of 20 per cent of isotope 235 of Uranium transferred under the pact. India agrees that nuclear material and equipment transferred to it by the US would be subject to safeguards in perpetuity (India, MEA, 2007).

In response to questions raised in Parliament about India’s right to test when the bilateral civil nuclear cooperation agreement with the US enters into force, the Minister for External Affairs said: “India has the sovereign right to test and would do so if it is necessary in national interest.” He argued that there was nothing in the bilateral agreement that would tie the hands of a future government or legally constrain its options. A decision to undertake a future nuclear test would be India’s sovereign decision, resting solely with the Government of India. The bilateral cooperation agreement contains elaborate provisions to ensure the continuous operation of India’s reactors. These include fuel supply assurances, the right to take corrective measures, and a strategic fuel reserve for the lifetime of India’s reactors in case of cessation of cooperation (India, MEA, 2007). President Bush’s Statement on the Henry J. Hyde Act of 2006 after signing into law on 18 December 2006 clearly indicated that the nuclear deal would strengthen the strategic relationship between the United States and India and deliver valuable benefits to both nations (US, White House, 2006).

Meanwhile, concerns have been expressed about various conditions inserted into the Hyde Act passed by the US Congress. Many of them apparently deal with areas outside nuclear co-operation and are seen as attempts to force India to accept the strategic goals of the United States. These issues include annual certification and reporting to the US Congress by the President on a variety of foreign policy issues such as India’s foreign policy being “congruent to that of

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the United States” and more specifically India joining US efforts in isolating and even sanctioning Iran; Indian participation and formal declaration of support for the US’s highly controversial Proliferation Security Initiative including the illegal policy of interdiction of vessels in international waters; India’s conforming to various bilateral/multilateral agreements to which India is not currently a signatory such as the Missile Technology Control Regime (MTCR), the Australia Group etc (US 2006). What followed was an intense debate within the country with respect to the pros and cons of the 123 Agreement. As a result of the high pressure from the left parties, the United Progressive Alliance (UPA) Government has been forced to slow down the process of finalizing the deal.

**Critical Issues of the Deal**

The Indo-US civilian nuclear agreement is now in a melting pot. Provisions of the agreement are fairly known to all. So are the implications of the Henry Hyde Act. The focal point of the criticism is that it would undermine India’s sovereignty and autonomy, binding it to the whims of the US. A major contention is that India’s sovereign right to conduct nuclear tests is under challenge, as per the provisions of the agreement. And, if India decides to do so, the US reserves the right to withdraw all material and technology transfers to India, thereby denying India of the right to carry on its nuclear project, both civilian and military. The legality of the deal is also contested on grounds of authorisation and constraints put out by domestic laws. As such, the Hyde Act is seen as very stringent with respect to non-proliferation and whatever assurances given regarding India’s ‘freedom of action’ have no validity as long as the Hyde Act reigns supreme. The deal is also to be seen in a wider framework of the strategic partnership that India has with Washington already, which amounts to bartering away whatever little autonomy that India has today.

Advocates of the agreement say that there are two major advantages from the deal. First it would help address India’s impending energy deficit by enhancing nuclear power to the tune of 20000 MW, or to quote other official statistics, an ambitious 40000 MW in another two decades’ time (Srinivasan, Grover, Bhardwaj 2005: 5183-88; Levi and Ferguson 2006). Secondly, the deal would satisfy India’s quest for a status on par with other nuclear-weapon-powers, without actually signing the NPT. So it is seen as a green channel to secure, comfortably, a pride of place in the nuclear club.

Perceptibly, both arguments are blown out of proportion and ill-founded. Though the ‘text’ and ‘subtext’ of the agreement are known to all (even as we analyse the provisions in-depth alongside the ‘context’ of this partnership),
the debates have a narrow hyperrealist focus without any normative content within them. There is hardly any debate on the very rationale of ‘nuclear renaissance’ in a scenario of uncertainties. This article tries to address the implications of 123 Agreement by raising concerns of the deceitful logic of ‘nuclear renaissance.’

An important feature of the ongoing debate is that some sort of consensus has emerged among the political parties in India (as in the case of the past), and between political parties and various sections of the civil society (intellectuals, defence-foreign policy think-tanks, and the civil and military bureaucrats). The consensus is primarily on the ‘inevitability’ of nuclear power for ‘energy security’ and the importance of India’s right to detonation for ‘national security.’ This consensus has become a major problem for a rational-critical debate on the energy options before India. Even the left parties put across their arguments mainly on the lines followed by the domestic nuclear hawks who fear that agreement might place major constraints on India’s nuclear weapon’s programme (Karat 2007). The major focus of their campaign is the implications that the agreement would have for India’s foreign policy and its ‘strategic autonomy.’ This is quite evident from their obsession with the Hyde Act which may, ultimately, help strengthen the UPA government’s efforts to go ahead with the deal. The overall political response to the deal in India indicates that it fully conforms to the ‘strategic thinking,’ as has been evident from the position of political parties, including the left, from time to time. Very little is said or debated from a normative or empirical point of view with regard to nuclear power.

Two critical questions loom large at this juncture. Why should India go for a high-profile nuclear programme with an ambitious plan of generating 20,000 MW of electricity by 2020 to meet the energy deficit in the country? Why should India be obsessed with the right to conduct nuclear tests in sheer violation of all pronouncements and commitments that it has made all these years on nuclear disarmament?

The first question needs to be addressed in the larger context of the dubious role the nuclear lobby has played in India and elsewhere. I would argue that the long-term economic and technological benefits of this deal would go to the nuclear ‘haves’—obviously the nuclear industrial complex (NIC)—who are moving heaven and earth to give a big push to nuclear power. Surprisingly, the NIC has now become ‘environment-friendly’ and started employing ‘environmentalists’ and ‘nature-lovers’ to popularise nuclear power worldwide. For example, Patrick Moore, environmentalist and co-founder of Greenpeace, Stewart Brand, founder of the Whole Earth Catalogue and holistic ecology thinker, James Lovelock, a leading atmospheric scientist and many others are
deployed by this power lobby to make a strong case for nuclear revival.² They are campaigning that nuclear power is clean and safe and it is the ‘only’ alternative to avoid the release of 3 billion tones of CO₂ emissions annually. Such arguments are highly exaggerating, because if this is to happen, we need to have thousands of nuclear plants every year to replace only 10 per cent of fossil fuel energy sources.³

Much more than the so-called ‘environmental’ reasons for a big push in nuclear energy, trade-related nuclear material and technology transactions have now become a money-spinning area for big business. Here the United States and other NSG countries are out to capitalise the ‘new thinking’ on nuclear energy. For this, they have started conducting extensive marketing surveys, opinion polls, and initiated academic programmes to popularise nuclear science and technology. For example, a survey conducted by the Massachusetts Institute of Technology (MIT) says that 35 per cent of Americans now favour increasing the nation’s reliance on nuclear energy.⁴ According to the MIT survey, about 100 nuclear reactors are approaching the end of their lifespan in the US and power industry officials have called for a ‘wave of construction’ to sustain the nuclear sector’s current share of 20 per cent of America’s electricity.

Meanwhile, the US administration has come under heavy pressure from the nuclear-military industrial complex to switch on ‘nuclear renaissance.’ In July 2006 John F. Kotek, Manager of Nuclear Programmes, Washington Policy and Analysis, Inc., submitted a testimony before the US House of Representatives Committee. He sounded alarm that “nuclear power in America has been on the decline.” John said that the American firms that once dominated the manufacture of nuclear reactors have largely been sold to foreign companies. So it is “not enough for the US to simply become a producer of electricity. The American companies should compete in this vital arena “for providing large-scale reactors based on existing technology.” According to John, the US is in a unique position to capture the markets for tomorrow’s nuclear technologies.” He said that the proposed Global Nuclear Energy Partnership (GNEP) could provide just the boost our industry needs in order to develop and market new, advanced, proliferation resistant nuclear energy technologies.” John further submitted that restoring “a robust domestic nuclear energy industry will also have a positive effect on employment and on our nation’s economy.” The economic and employment impacts, according to him, run in billions of dollars and tens of thousands of jobs.⁵

John F. Kotek’s testimony has come true. American companies have already started capturing world market for a new partnership in nuclear trade. A consortium consisting of Exelon Nuclear, Entergy Corp, Constellation Energy, Southern Co and EDF International, and manufacturers such as Westinghouse,
General Electric, Toshiba, etc. are set to reap the windfall of nuclear renaissance. The Indian business giants like Tatas and L&T are also in the race for a liberalised setting in the nuclear estate. It is estimated that if the American business giants are able to secure contracts for a couple of nuclear plants, they would generate more than 20000 direct and indirect jobs in the United States alone. If India decides to establish a dozen big nuclear power plants within the next two decades (in order to generate 20,000 MW electricity, which, no doubt, is a quixotic project), it will have to ensure a minimum of $150 billion worth of investment.

The country will have to rely on the technology and hardware from nuclear-industrial complex for most of these plants. Each of these plants will cost about $4 billion. This calls for orders worth billions of dollars with the US companies alone in the next few years. Orders may also go to big industrial giants in France, Germany, Canada and Britain. Capital for these projects is to be mobilised either in the form of foreign direct investment (FDI) or soft and commercial loans. International commercial banks and equipment manufacturers abroad are eagerly waiting to shell out loans for this. If India yields to their pressure, it will have to pay it back with high interests, failing which the penalty will be unimaginably higher (if the Enron experience is any indication). This is a grim reminder that the high cost of the nuclear deal will result in a great financial disaster. This is much more important than its implications for India’s strategic autonomy.

Meanwhile, many studies have shown that the global nuclear industry has been on the decline for several decades. Globally, nuclear power has been growing only at an average rate of less than one per cent per year. A report suggested that in the early 1990s, there were more than 80 reactors under construction in different countries; by late 1990s that number dropped to just 36 and fell further today. High costs have affected nearly all the world’s nuclear power industries and the problem has been very acute in the US itself (Lochbaum 2004; Seethi 1997). A few years back James Cook wrote that the failure of the US nuclear power programme ranks as the largest managerial disaster in business industry, a disaster on a monumental scale (Flavin 1987).

Many had already predicted that the share of nuclear power in electricity worldwide would be much lower by the end of the late twentieth century than it was anticipated in the 1970s and 1980s. The International Atomic Energy Agency (IAEA) in its 1974 Annual Report projected that 4.45 million megawatts of nuclear power would be in place by the year 2000. In 1986, the IAEA projected that the world would have just 372,000 megawatts of nuclear power in 1990 and 505,000 megawatts in the year 2000—this is almost 90 per cent below the 1974 projection and a 45 per cent decline from the 1980 forecast (IAEA 1986).
As evidence of nuclear power’s decline in the United States, critiques cite the eight reactors permanently closed since 1990 “due to unfavorable economics” and the three new reactor designs certified by the Nuclear Regulatory Commission in the late 1990s have not yet been sanctioned because they are too expensive (Lochbaum 2004).

The escalating costs of nuclear projects are as important as the problems of safety, health and the impact on environment. Nuclear scientists themselves suggest that nuclear power would never be economically sound for most developing countries; it will definitely be a financial disaster. Even the former chief of US nuclear establishment David Lilienthal observed that nuclear technology “is neither dependable nor safe enough.” Lilienthal also called that the nuclear system is “complicated, immature and fundamentally unsafe” (Lilienthal 1980:113).

For several decades the Indian nuclear scientists argued that given the energy problems of the future, India could think of no other source except nuclear energy which could solve the problems of the country during the next twenty five years and beyond (Ramanna 1977). The target set at that time was 10000 MW by 2000. It has never reached this target. Even in 2007 the total power generated from nuclear reactors is less than 4000 MW which accounts for less than 3 per cent of India’s power generating capacity. At the same time, the investment in this sector has been escalating considerably. The nuclear lobby in India always claimed that nuclear energy “is safe, clean and economical” (Srinivasan 1990). But the fact that it is not at all economical has been established by many (Ramana and Rammanohar Reddy 2003; Ramana 2007: 169-71). The hidden costs of a nuclear plant include high energy inputs into total construction of a plant, its operational energy requirements, waste handling, storage and disposal and also decommissioning of plants. Dhirendra Sharma (1983: 44-45) says that if a power station generates 1000 MW for 25 years but leaves waste materials which require a power input for maintenance of 100 KW for 25,000 years, then the net energy output would be zero.

On the other side, India generates more electricity from renewable sources such as wind and solar. When nuclear plants generate less than 4000 MW electricity with high state subsidy and escalating costs, wind power output is far ahead with a record of 7500 MW without state subsidy, which is more than 6 per cent of the total electricity produced in India.

It may be noted, even if everything goes well with the deal, India has to wait till 2020 to reach the target on par with the amount of wind energy generated today. While uranium availability is not guaranteed, either from internal or external sources, India has huge coal deposits which are sufficient for at least two hundred years. But uranium deposits are drying up very fast (WNA 2004).
At the current level of consumption (67,000 tonnes per year) uranium resources (2.8 million tonnes of uranium) would last for another four decades only – a fact highlighted by the European Commission on Energy recently. India is going to have the deal with the US for 40 years! When the estimated nuclear plants go critical and start producing electricity, uranium will be a precious material by that time. Then the continued supply of fuel for these plants would be a greater problem for India. India’s experiments with thorium will again be contingent upon the magnanimity of the US.

The social and environmental costs of nuclear energy should also be addressed in the context of radioactive wastes generated from nuclear plants. Around 300,000 tons of highly radioactive nuclear wastes have piled up in the 50 years of its civilian use. Some 10,000 tons are added each year, but there is not a single permanent storage facility for radioactive waste anywhere in the world. Scientists have already established that the radioactive wastes will remain for thousands of years causing serious health hazards. The number of cancer cases has gone up in an unprecedented manner during the nuclear age. Countries having nuclear reactors in the world have time and again scuttled information on how they dispose their nuclear wastes. The case of India is very clear. The 1962 Atomic Energy Act prevents our knowing about it. Radioactive nuclear wastes are silent killers and given its nature one cannot even feel the transmission of radiation till serious ailments are diagnosed. Obviously, the costs are not just economical.

Worldwatch President Christopher Flavin is frank enough to say that nuclear power is a high-cost technology with limited ability to meet the electricity needs of either India or the United States. According to him, nuclear power is a dying industry. Our policymakers should read Worldwatch’s (2006) State of the World 2006 report which points out that renewable energy resources such as solar, wind, and biomass are far more practical energy options for China and India. It is true that India and China have vast land areas that contain a large dispersed and diverse portfolio of renewable energy sources that might attract foreign and domestic investment as well as political interest. The report says that nuclear power provides only three per cent of India’s electricity today, and even if the 30 new nuclear plants the government hopes to build are actually completed over the next two decades, nuclear sector “would still provide only five per cent of the country’s electricity and two per cent of its total energy” (Worldwatch 2006). Notwithstanding such rethinking and reassessments, several countries—like India—have, unfortunately, become open advocates of nuclear power, obviously under pressure from the NIC.

Before concluding, let us go back to the normative predicament concerning the second question posed at the beginning. Given the nature of the deal, what
is in store for India’s foreign policy and its international stature? No doubt, the nuclear deal has ultimately led New Delhi to abandon its principled position on nuclear disarmament in its quest for securing a certificate from the prestigious nuclear club. The process was initiated way back in 1998. While the domestic critiques of the nuclear deal point, primarily, to the strategic impact of the Hyde Act on India, they are conveniently forgetting the role that India has played in combating nuclear weapons in the past. Paradoxical it may seem, the South Block is currently pursuing a ‘common minimum’ deterrence of which the Left is also a willing partner. Prime Minister Manmohan Singh in his reply to discussion on the nuclear deal in Rajya Sabha (on 17 August 2007) said that India would “not accept proposals put forward from time to time for regional non proliferation or regional disarmament.”6 His message is very clear. India is thinking ‘globally’ to abandon nuclear weapons, but acting ‘locally/regionally’ to popularise them. This is the height of South Block’s sanctimonious hypocrisy. The opposition seemed to have clinched a victory by forcing the UPA Government to keep the deal in abeyance. However, what is needed today is a high level study group consisting of technical, scientific, managerial and social policy experts to look into India’s impending energy crisis and the options before the country.

Notes

5. It may be noted that the ACGNC was formed to alert policymakers and the public of the need to restore US leadership in nuclear energy. President Bush took a step toward restoring this leadership earlier in 2006 with the announcement of GNEP. The ACGNC supports his vision for GNEP, which, “if properly implemented and accompanied by an American-led, transforming technology leap could restore America’s preeminence in the nuclear enterprise.” It also said that “if GNEP is structured with an eye toward enhancing US economic competitiveness, American industry could thrive.” For the full text of the testimony of John F. Kotek see http://www.nuclearcompetitiveness.org/images/Testimony_-_House_IR-OI.doc.
6. Prime Minister himself had also admitted this in his speech in Parliament. He says: “Apart from its direct impact on our nuclear energy programme, this Agreement will have major spin-offs for the development of our industries, both public and private. High technology trade with the US and other technologically advanced countries will expand rapidly.” See his statement in the Lok Sabha on the nuclear deal on 13 August 2007. http://www.pmindia.nic.in/lspeech.asp?id=569

References


“Do Not Operationalise the Deal,” People’s Democracy, XXXI(33), 19 August.


