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Opening up of international civil nuclear cooperation with India and related developments

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ABSTRACT

The Joint Statement issued by the Prime Minister Manmohan Singh of India and the President George W. Bush of the United States in July 2005 paved the way for momentous changes leading to the opening up of international civil nuclear cooperation with India. As a follow up, India prepared a Separation Plan to offer several of its indigenously built nuclear reactors and fuel cycle facilities under safeguards by the International Atomic Energy Agency (IAEA) and negotiated an India-Specific Safeguards Agreement. India also launched an outreach with the Nuclear Suppliers Group (NSG) and the NSG relaxed its guidelines in September 2008 to facilitate international civil nuclear trade with India. All this resulted in India signing Nuclear Cooperation Agreements (NCA) with several countries and has enabled India to import uranium from the international market. India has placed orders with Russia for setting up of additional reactors in technical cooperation and is in negotiation with companies in France and the USA for similar orders. In parallel, India was admitted in December 2005 to the ITER venture as a full partner. The global scientific community now recognizes India as an important stakeholder in mega science projects and there has been a deluge of requests for India's participation. The paper focuses on gains for India arising from developments subsequent to the Joint Statement.

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1. Introduction

Research and development to exploit atomic energy for the welfare of the people of India was launched in mid-nineteen forties, Atomic Energy Commission was set up in 1948 and Atomic Energy Act was also enacted in 1948. A swimming pool type research reactor APSARA achieved first criticality on August 4, 1956 and was followed by setting up of a 40 MWt research reactor CIRUS which achieved first criticality on July 10, 1960. Atomic Energy Act, 1948 was replaced by Atomic Energy Act, 1962 and research and development on all aspects of nuclear science and engineering was launched at a research centre set up in Trombay. India is not endowed with any significant conventional energy resources and therefore, the objective of research and development was to exploit nuclear technology for generation of electricity.

In view of very modest domestic uranium resources, it was decided to follow a closed fuel cycle approach so as to utilize the full energy generation potential of uranium. India has vast thorium resources, which can be exploited only by following a closed fuel

cycle. Over the years India has developed technological capability in exploration and mining of uranium, fabrication of a variety of fuel pins, heavy water production, designing and setting up of pressurized heavy water reactors (PHWRs), spent fuel reprocessing and waste management including partitioning of minor actinides.

The Treaty on the Non-Proliferation of Nuclear Weapons (NPT) provides for peaceful nuclear explosions. The international Atomic Energy Agency (IAEA) organized short-term workshops on the subject until mid-nineteen seventies. However, once India conducted a peaceful nuclear explosion in 1974, the concept of peaceful nuclear explosion was no longer a part of the discourse on the subject. All international civil nuclear cooperation with India came to an abrupt end, but India remained steadfast in its resolve to develop nuclear power technologies and achieved several notable successes. This included improvements in the design of PHWRs, setting up of PHWRs and associated fuel cycle facilities, design and setting up research reactors and reprocessing plants, and developing technologies for setting up fast breeder reactors.

2. A new initiative

India conducted three underground nuclear tests on May 11,

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1998 and a second set of tests were conducted two days later. Tests were followed by intense diplomatic engagement with several countries. One of the results of this effort was the release of a matched set of statements on January 13, 2004 by the Prime Minister Atal Bihari Vajpayee of India in New Delhi and the US President George W. Bush in Washington.¹ The statement was titled “Next Steps in Strategic Partnership” and in author’s view, its benefits for the nuclear industry in India were symbolic. However, it did become a building block for a dialogue between India and the USA.

The situation with regard to nuclear isolation of India changed with the Joint Statement issued by the Prime Minister Manmohan Singh of India and the President George W. Bush of the United States on July 18, 2005 (DAE, 2005). The Joint Statement is a historic document as it paved the way for momentous changes leading to the opening up of international civil nuclear cooperation with India. Paraphrasing the Joint Statement, one notes that the US.

- (i) recognized India as a state with advanced nuclear technology.
- (ii) committed to work to achieve full civil nuclear energy co-operation with India.
- (iii) work with friends and allies to adjust international regimes to enable full civil nuclear energy co-operation and trade with India.
- (iv) consult with partners about India’s participation in the ITER² project.

India on its part agreed to

- (i) identify and separate civilian and military nuclear facilities and programmes.
- (ii) voluntarily place its civilian nuclear facilities under IAEA safeguards.
- (iii) sign and adhere to an Additional Protocol with respect to civilian nuclear facilities.
- (iv) continue India’s unilateral moratorium on nuclear testing.
- (v) work with the United States for the conclusion of a multi-lateral Fissile Material Cut Off Treaty.
- (vi) refrain from transfer of enrichment and reprocessing technologies to states that do not have them and supporting international efforts to limit their spread.
- (vii) ensure that the necessary steps have been taken to secure nuclear materials and technology through comprehensive export control legislation and through harmonization and adherence to Missile Technology Control Regime (MTCR) and Nuclear Suppliers Group (NSG) guidelines.

3. Triggers for the new initiative

Both the countries had different triggers for the new initiative. For India trigger was uranium crunch. India has mastered the technology for the construction of PHWRs, but was not in a position to construct more PHWRs as India’s uranium reserves are modest. In spite of intense efforts, additional uranium mines could not be

opened to mine uranium due to various reasons particularly environmental clearances. The mismatch between domestic production of uranium and supply was widening and the result was a fall in the capacity factors of reactors already constructed. India was not eligible for international civil nuclear trade as per the then prevailing international regime created by the Nuclear Suppliers Group. It was, therefore, necessary for India to look for some ways and means to get uranium from the international market without sacrificing its security interests.

There are two narratives with regard to why the USA took the decision to negotiate a nuclear cooperation agreement with India: the one strategic and the other scientific. Ashley Tellis, Carnegie Endowment for International Peace, was one of the most prominent faces of the strategic narrative. He authored a monograph titled, “India as a New Global Power: An Action Agenda for the United States” days prior to issuing of the Joint Statement referred to earlier (Tellis, 2005a). In this monograph he advocates enhancing civil nuclear cooperation with India and postulates six end-states for integrating India into the global nuclear regime starting with maintaining status quo as the first end-state and moving through various stages which propose incremental benefits for India such as scientific cooperation and supplying fuel for safeguarded facilities etc. The sixth end-state was integrating India into “the NPT regime as a legitimate nuclear weapon state with all the privileges thereof”. He then argues relative merits and writes, “By integrating India into the nonproliferation order at the cost of capping the size of its eventual nuclear deterrent, the second solution, and perhaps the third, threaten to place New Delhi at a severe disadvantage vis-à-vis Beijing, a situation that could not only undermine Indian security but also U.S. interests in Asia in the face of the prospective rise of Chinese power over the long term.” Quoting this sentence from the monograph of Tellis, Sidharth Varadarajan, who was then working with a prominent Indian daily ‘The Hindu’ wrote, “This, then, is the real value of the deal in American eyes and the Indian public should be aware of it” (Varadarajan, 2005).

Later on November 16, 2005, Tellis testified before the House Committee on International Relations as part of the hearing on “The US-India Global Partnership: How Significant for American Interests?” During the testimony, he referred to the monograph published by him and lists eight diverse issue-areas that are common interests of the USA and India. In the testimony, he appreciated India’s good non-proliferation record and quotes the then US Under-Secretary Nicholas Burns, “By cooperating with India now, we accelerate the arrival of the benefits that India’s rise brings to the region and the world.” In the concluding paragraph of the testimony, Tellis writes, “Given India’s importance to the United States in regard to each of the eight issue-areas identified earlier in this testimony, reaching out to New Delhi with the promise of a full partnership is a much better strategy for transforming U.S.-India relations than the niggardly calculation of treating Indian good behavior as a freebie that deserves no compensation because New Delhi presumably would not have conducted itself differently in any case” (Tellis, 2005b). One may also note that an acknowledgement of Indian ‘good behavior’ is woven in the statement.

Long after the joint statement was signed, written evidence about the second narrative emerged which says that the decision by the USA to facilitate international civil nuclear trade with India was triggered by growing Indian capability in nuclear science and engineering. In 2014, Anish Goel wrote, “After years of careful analysis and foundational work, supported by scientific expertise, the nuclear deal was announced with great fanfare when Indian Prime Minister Manmohan Singh visited the White House on July

¹ A detailed account of engagement during this period can be seen in “Engaging India: Diplomacy, Democracy and the Bomb” by Talbott (2004), published by Penguin Books India.

² When first proposed, ITER was an abbreviation for International Thermonuclear Experimental Reactor. Iter is Latin for ‘the way’ and earlier detail has been dropped. ITER began in 1985 as a Reagan–Gorbachev initiative with the equal participation of the Soviet Union, European Union, the United States, and Japan. Detailed design was completed in 2001 under the auspices of the IAEA. Negotiation for the launch of the project started thereafter and over the years more Parties joined the original four.

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