

# INDIA-FRANCE NUCLEAR COOPERATION

## Abstract:-

India and France have maintained close exchanges since decades, particularly in the area of research and development. The current international perspective marked by energy security, has confirmed the validity of France's historic choices made with regard to civil nuclear energy. The India-France nuclear cooperation is acquiring a large-scale dimension in changing global scenario. It also comprises the other equally important cooperation areas of research, safety and security, waste management, use of nuclear energy for applications other than electricity production as well as education and training aspects



## Keywords:

Global Scenario, Energy Security, Civil Nuclear Energy, Collaboration, Nuclear Test.



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## INTRODUCTION

Indo-French cooperation in the nuclear field has a long history. There was a personal friendship between Homi Bhabha, father of the Indian nuclear energy programme and Frederic Joliot-curie, noted nuclear physicist, who registered the first French patents for atomic piles in 1939 and Francis Perrin, who later became the High commissioner of the French Commissariat de l' Energie Atomique (CEA-French Atomic Energy commission), which was created in 1945 and was made responsible for promoting the use of nuclear energy. It is with India that the CEA signed its first international agreement and a number of Indian nuclear scientists and technologists like Homi Sethna, Raja Ramanna, Tendulkar and Udgaonkar worked with the French nuclear establishment and later became very prominent in the Indian nuclear research programme.<sup>1</sup>

In July 1972, Jean de Legarde, the then French Ambassador to India, predicted that India could conduct underground nuclear experiments in the Thar Desert in the next future.<sup>2</sup> In May 1974, India detonated a nuclear-fission device with a yield exceeding ten kilotons just a little less than that of the Hiroshima bomb.<sup>3</sup>

In July, 1978 Olivier Stern, the then French secretary of state, suggested albeit indirectly, that France could enrich uranium. The Indo-French agreement on Enriched Uranium was signed by Dr. Homi N. Sethna, Principal Secretary of the DAE and Andre Ross, Ambassador of France in India, at New Delhi on November 26, 1982.<sup>4</sup>

In the early 1990s, there was a fresh discussion between India and France on the future of NPT that was to be renewed in 1995.<sup>6</sup> The French National Assembly on June 20, 1992 officially adopted such a move. France subsequently announced a unilateral moratorium on nuclear tests and fully backed the Missile Technology Cut off Regime (MTCR), envisage restrictions on the transfer of dual use technology.<sup>7</sup>

Confusion continued to prevail over the French stand on extended supply of enriched uranium to India initially a report emanated from Paris that India's continued refusal to sign the NPT would not stand in the way and France would continue to provide nuclear fuel to Tarapur even after 1993, since New Delhi respected the principle of non-proliferation by deserting even after having the know-how. Very next day, it was denied and the French Foreign Ministry declared, "France makes full scope safeguards a condition for supplying nuclear fuel under new contracts with any country." In July 1993, France made it clear that it was willing to extend the agreement on fuel supply beyond 1993, provided the father accepts full scope safeguards and places all its nuclear installations under the inspection regime of the International Atomic Energy Agency (IAEA).<sup>8</sup>

In August 1994, France announced that it would commit itself to the CTBT prohibiting all nuclear tests and would close its nuclear test site at Mururoa Atoll in the French Polynesia. However, as per the advice of a group of experts that tests were necessary if the 'effectiveness and security' of the French nuclear forces was to be guaranteed.<sup>9</sup> Although France has not formally announced the new targets for its nuclear force. It is reported that the French include those countries in the third world with a capability to build nuclear weapons and missiles.

In such an environment, chances of Indo-French nuclear collaboration are likely to be nonexistent.

### Cautious view on test:

The view was expressed at the 39th annual general conference IAEA in Sept. 25, 1995. The conference which was attended by 103 states passed over 28 resolutions including the one of the French and Chinese nuclear testing. India did not cosponsor the resolution but welcomed it. The root of the problem lay elsewhere Indian Ambassador Doshi told the conference.<sup>10</sup>

India too had utilised the opportunity provided by the renewed French nuclear tests from Sept, 1995 onwards, to train its gun against the NPT and CTBT, rather than to chide France on its renewed tests. It maintained that the French tests projected the NPT as a flawed mechanism which was extended indefinitely while France and China were trying to bolster their nuclear arsenals and after all this, India signing CTBT could only have a effect of freezing the disparities between the nuclear haves and the have notes.

In February 1996 was evident from the reply of JEAN Francois-Poncet, Former Foreign minister and the then chairman of the French senate committee on economic affairs and planning, who visited New Delhi. He maintained: "The nuclear subject is part of the international system. A system exists and that covers France. We are likely to react in accordance with the general principle. In any case I hate the idea of sanctions. This is of course my personal view." After that, it serenely signed the CTBT on Sept, 24, 1996. It also started pressing India to back the CTBT.<sup>12</sup>

The then French Foreign Minister Herve de Charette, remained in close contact with New

Delhi is his efforts to overshadow India to sign and ratify the CTBT. The French Minister said he understood India's opposition, but urged it to think again. India simply turned down the French overtures in this regard.

In spite of these differences of opinion, France has shown inordinate interest to have a tie-up with India in nuclear technology and to engage India in an extended dialogue, which could result in the transfer of atomic energy know-how to New Delhi.

The high level delegation that accompanied Chirac, the French president to India in January 1998 include Dominique vignon, chairman of Framatome, which manufactures nuclear plants and closely associated with the French Atomic energy commission.

whether France would be interested in investing in the power sector, Chirac replied that India had a crying need for electricity and that France, with its expertise, would be happy to collaborate "we are quite willing to discuss cooperation in the field of power, including nuclear power, with conditions that would respect international agreements" he indicated.

In January 1998, before reaching New Delhi, French president Jacques Chirac had declared that he was keen on an "ambitious partnership" with India Chirac replied, "We would like cooperate with India on the production of nuclear power in India and we have signed a number of international treaties.

Chirac maintained: "There's nothing to stop two great nations like India and France discussing such nuclear cooperation.

By conducting five nuclear tests in May 1998 and there by demonstrating its nuclear capability, India has declared itself a nuclear weapon state. In Sept, 1998 the India Prime Minister visit to France to consolidate the emerging "Special relationship" between India and France. It may be noted that it was his first visit to any of the major powers since Pokhran-II tests. Thus, the Indo-French talks on nuclear cooperation continued unhindered in spite of the India nuclear tests.<sup>13</sup>

In Oct, 1998 the principal secretary to the Indian Prime Minister and French President's special envoy held wide ranging talks at New Delhi covering civilian nuclear cooperation within the framework of their "Strategic dialogue". The dialogue with France in the nuclear field has not only opened the door for a nuclear reconciliation between France and India, but it was also quite helpful in "balancing" its dialogue, New Delhi believes would give an extra maneuvering space for it in its post – Pokhran nuclear diplomacy.

France is appreciative of India's voluntary moratorium on nuclear tests, which it sees as a forward movement on non-proliferation issues. The Indo-French strategic Dialogue has helped the Indians immensely to sensations France and through France other European Union member states, on their security concerns and the need to look at the issue of sanctions against. India with greater maturity and understanding in the wake of Pokhran II nuclear tests, When India conducted its nuclear tests in Pokhran in May 1998, France was one of the few countries which did not condemn New Delhi or impose sanctions. Later in 1999, France welcomed the release of India's draft nuclear doctrine as a "logical and indeed wanted step" on the face of the Indian decision to develop nuclear weapons. The French officials have said that they were familiar with some of the elements highlighted by the National security Advisory Board (NSAB) document, having engaged India in a few rounds of the strategic dialogue."

#### NUCLEAR COOPERATION AFTER POKHRAN-II

In January 1999, India and France have agreed to intensify defence cooperation. The two countries discussed broad contours of future cooperation in the defence sector during the two hour delegation level talks between defence Minister George Fernandes and his French counterpart Alain Richard, in Paris, Jan 11.<sup>15</sup>

Fernandes said India was interested in strengthening bilateral ties in the fight of "the very close relationship" that had developed between the two nations after the May nuclear tests. Fernandes, who is leading a five-member delegation, said India had already welcomed France's attitude of "understanding" after it conducted the tests.<sup>16</sup>

In February 2000, Hubert vedrine the French Foreign minister visit to India assured that France is ready to promote the development of civilian nuclear technology if India signed the CTBT, through appropriate cooperation and on a basis of respect for its international commitment signing and ratification of CTBT, effective support for the immediate launching of negotiation on a treaty prohibiting the production of fissile material for nuclear weapons and displaying more open attitude to monitoring by the international Atomic Energy. Agency, would help France to cooperate with India in the nuclear field, he maintained on the issue of the French recognition of India as a nuclear weapon state, Vedrine pointed out that India possesses military nuclear capabilities.

Thus it is clear that France is ready to continue to cooperate with India in the nuclear field.



However, it expects that right gesture, like the signing of the CTBT to overcome the objections that are likely to arise in case of the French supply to nuclear power reactors to India. It is heartening note that France has also been supportive of India's hopes of joining the global club of nuclear exporters. In January 2003 India and France signed an extradition treaty. The Deputy Prime Minister, Lal Krishan Advani concluded his official visit to France, Jan 24, with the signing of a bilateral extradition treaty.

Speaking to the media soon after signing it, Advani and the French Justice Minister, Dominique Perben, said the treaty was a reflection of the strengthened legal and judicial understanding and the relationship of trust between the two countries.<sup>18</sup>

In May 2003 France has offered a long-lasting military relationship to India in a view of the similar vision shared by both countries on the global geo-political situation. Deeper ties could particularly evolve in joint development, technology transfer and sale of high tech weapons systems suggested the visiting French Defence Minister, Michelle Alliot Marie, during an interaction with presspersons in New Delhi April 28.

France has had intermittent ties in military to military relationship and is seeking to improve them substantially by offering technology for the indigenous production of missiles and submarines. The French minister was hopeful that the Multi-billion contract for the construction of six submarines at an Indian shipyard would be signed before the end of the year.<sup>19</sup>

In September 11 2005 Prime Minister Manmohan Singh in Sunday left for Paris enrooted New York saying New Delhi was committed to further strengthen the privileged relations of strategic partnership that exists between India and France.

"It is our intention to further expand co-operation in the fields of trade and investment, defence, space, civilian nuclear energy, advanced science and technology as well as cultural and civilization ties," he said in his departure statement.

Singh will have wide ranging discussions with French president Jacques Chirac, Prime Minister Dominique Villepin and other leaders on Monday.

On 6th December, 2005, India became full partner to the international fusion energy project. India's acceptance as a full partner is an acknowledgement of India as a responsible nuclear state with advanced nuclear technology including in the field of fusion research. The Commissariat Energies Atomique (CEA) in France and the institute of Plasma Research in Ahmadabad in India are leading scientific organizations in the area of nuclear fusion research in the respective countries. In view of this, the embassy of France in India along with both organizations is arranging lectures about the International Thermonuclear Experimental Reactor (ITER) program in New Delhi and Ahmadabad so as to popularise this programme among student and Indian Scientific. Community the lectures given by Dr. Jacquinet, Scientific Advisor to the High commissioner for Atomic Energy at CEA and Dr. Kaw, Director, Institute for Plasma Research, Gandhi Nagar was held recently in New Delhi.<sup>20</sup>

The ITER project is a large scale international project with the aim to demonstrate the scientific and technological feasibility of fusion energy ITER is the experimental step between today's studies of plasma physics and tomorrow's electricity-producing fusion power plants.

On 20 February 2006, India and France have signed an agreement pursues civilian nuclear cooperation "For peaceful purposes."

The declaration was signed following talks in Delhi between visiting French president Jacques Chirac and Indian Prime Minister Manmohan Singh.

"India access to civilian nuclear technology is indeed necessary in order to drive and fuel India's economic development", President Chirac said. India and France signed nine agreements, including ones on defence, trade and tourism.

The nuclear agreement means that France will support India's attempts to gain access to nuclear fuel and civilian technology to fuel its growing energy needs.

Manmohan Singh said that "we appreciate France's support for ongoing effort to enable full civilian nuclear energy co-operation between India and the international community." France is also hoping to strike key defence deals with India which is in the market for 126 New Warplanes, a purchase worth billions of dollars. France and India agree on atom deal. Both countries plan to double trade over next 5 years. The two countries said they would work to double bilateral trade over the next five years from its current level of 3.5 billion, or \$ 4.17 billion.

Anne Lauvergeon, the president of the French nuclear giant Areva, said that was awaiting a political accord "with impatience". Areva estimates that India needs 25 to 30 nuclear power stations to provide energy for the expanding economy and for its billion-plus population.

Manmohan Singh said the subject had come up during talks with his counterpart.

"The president explained his position and it is my hope that a fair decision will be taken." he said.<sup>21</sup>

**JOINT STATEMENT, 25 JANUARY 2008 NEW DELHI: -**

President Nicolas Sarkozy's state visit to India and his presence as the chief Guest at the Republic Day commemorations reflects the shared commitment of both India and France to provide fresh impetus to their strategic partnership. Both countries are committed to international peace and security, nuclear non-proliferation and counter terrorism.

**INDO-FRENCH CIVIL NUCLEAR COOPERATION DEAL**

Civilian nuclear cooperation constitutes one of the cornerstones of the Indo-French strategic partnership. A landmark Framework Agreement on Civil Nuclear Cooperation was signed between India and France on 30 September 2008 during the visit of Prime Minister Dr. Manmohan Singh to France. Subsequently, during the visit of President Nicolas Sarkozy to India from 4-7 December 2010, the General Framework Agreement and the Early Works Agreement between Nuclear Power of Corp of India Ltd. (NPCIL) and Areva for implementation of EPR NPP Units at Jaitapur were signed. The cooperation agreement is based on the development of nuclear energy for peaceful purposes, sets the framework of our exchanges with India not only at the industrial and commercial levels but also with regard to R&D, nuclear safety, education and training.

Even as Indo-US civil n-deal awaits Presidential ascent, New Delhi and Paris signed on 30 September an agreement on civil nuclear cooperation the first of its kind since the nuclear suppliers Group agreed to lift international restrictions on India's nuclear trade. Formally, the agreement called the "Co-operation agreement between the Government of the Republic of India and the Government of the French Republic on the development of peaceful uses of nuclear energy."

The agreement was signed by Atomic energy commission chairman Anil Kakodar and French Minister Bernard Kouchner in the presence of Prime Minister Manmohan Singh and France President Nicolas Sarkozy at the Elysee palace. The agreement paves the way for India to be business with France in reactors, nuclear fuel supply, nuclear safety, radiation and environment protection and nuclear fuel cycle management protection and nuclear fuel cycle management. The Prime Minister said the agreement added "new dimensions both sides have contextualized the agreement in the global need to find non-polluting energy sources to commit climate change.

In the energy sector, the French president mentioned that his country is ready to cooperate with India in the civilian nuclear domain. He even showed keenness for the construction of twenty new nuclear power units in various parts of India of course, these are contingent upon the nuclear suppliers group revising its guidelines. Sarkozy stated that France will work at that Forum to help India's case for grant of a waiver. He also said that France has been a strong supporter of the Indo-US nuclear deal; though he did not wish to comment on India's domestic debate on the issue. But he gave the assurance that once the domestic Indian debate on the issue is resolved and as soon as the international waiver is obtained France would actively involved itself in India's nuclear energy programme.

France supports India's inclusion as a permanent member of Security Council thus making the UN more relevant to the needs of the 21st century and enabling India to play its role in world affairs. France also believes the G-8 needs to be expanded over time to G-13 including India.<sup>22</sup>

Extracts from India-France joint Statement, State Visit of President François Hollande in India, 14-15 February 2013

In the field of energy, the leaders expressed satisfaction in regard to ongoing collaborative projects in R&D on the peaceful uses of nuclear energy and agreed to further strengthen bilateral civil nuclear scientific cooperation. Recalling the Memorandum of Understanding signed on 4 February 2009 between NPCIL and AREVA for setting up of 6 x 1650 MWe EPR units at Jaitapur, the leaders reviewed the status in regard to the first two EPR units and noted that NPCIL and AREVA were engaged actively in techno-commercial discussions. They expressed hope for the expeditious conclusion of the negotiations. It was emphasized that the Nuclear Power Plant at Jaitapur would incorporate the highest safety standards.

**CONCLUSION**

Thus, it is clear that France is ready to continue to cooperate with India in the field of nuclear energy. It is heartening to note that France has also been supportive of India's hopes of joining the global club of nuclear exporters. When India conducted its nuclear tests in Pokhran in May 1998, France was one of the few countries which did not condemn New Delhi or impose sanctions. So, India-France relations set to move into high gear, which has grown in strength and maturity.

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