

[REDACTED]  
Central Intelligence Agency



Washington, D.C. 20505

23 July 1982

MEMORANDUM

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India: the Tarapur Dispute [REDACTED]

[REDACTED] Prime Minister Gandhi will avoid a confrontation during her visit to Washington over India's longstanding dispute with the US over the provision of fuel for the Tarapur Atomic Power Station. Gandhi's interest in improving India's political relationship with the US, her desire to influence US policy toward Pakistan, and her apparent belief that India has a long-term technical alternative to US fuel will override Indian concern that it will have used up all available fuel by the end of next year.

We believe that India will continue to observe its safeguards agreements on the Tarapur plant over the next year and will hold out the prospect of continuing safeguards beyond that time in exchange for US acceptance of its plans to refuel Tarapur with indigenously produced fuel or with fuel purchased from a third party. India's longer term objective is to terminate its bilateral agreement with the US and thereby end US control or leverage over the Indian nuclear program. India would thus preserve its option to develop "peaceful nuclear explosions" and escape US pressure to submit all of its nuclear facilities to international safeguards.

The Tarapur Impasse

India and the United States have been deadlocked since the late 1970s over the supply of fuel for the reactors at the Tarapur Atomic Power Station near Bombay. The United States suspended shipments of low enriched uranium in 1980 after India refused to comply with the provisions of the US Nuclear Non

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Proliferation Act of 1978 (NNPA). This law requires non-nuclear weapon states, such as India, to accept safeguards administered by the International Atomic Energy Agency (IAEA) on all nuclear facilities and to provide assurances to the United States that they will not develop nuclear explosive devices as conditions for continuing US nuclear exports. India rejects the NNPA as a unilateral US attempt to amend a valid international agreement, and has told the United States that as long as it refuses to supply nuclear fuel, India is not obligated to apply international safeguards. In short, India insists on maintaining the option to develop "peaceful nuclear explosions."

By late 1983 the Tarapur reactors will have used up all available fuel stocks and, unless other supply arrangements are made, will be forced to shut down. A long shutdown would deprive the Bombay area of needed electricity and embarrass Prime Minister Gandhi domestically as well as among other countries in the Third World which respect India's technological prowess.

The Agreement for Cooperation of 1963 and the Spent Fuel Controversy

The Agreement for Cooperation between the United States and India, signed in 1963, underlies the Tarapur issue. In the Agreement, the United States pledged to fuel the General Electric-built twin reactors at Tarapur for thirty years. India agreed to accept safeguards on the reactors, their fuel, their spent fuel, and any facility containing nuclear material subject to the agreement.\* India also agreed to secure prior consent from the United States before reprocessing spent fuel from Tarapur or using non-US-origin fuel in the reactors.

These provisions have become controversial. Public statements of Indian nuclear officials and annual reports of the Department of Atomic Energy repeatedly note that India has planned to reprocess the spent fuel from Tarapur in order to dispose of nuclear waste and to produce plutonium for eventual use in breeder reactors. The PREFRE (Power Reactor Fuel Reprocessing) plant near the Tarapur reactors was built for this purpose. The United States has refused to give its prior consent for reprocessing of Tarapur spent fuel because reprocessing would contribute to stocks of plutonium that could be diverted to an Indian nuclear weapons program.

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\*A trilateral agreement signed in 1971 among the IAEA, India, and the United States assigned responsibility for safeguards to the IAEA. The 1963 agreement provided that the United States would conduct safeguards inspections until the IAEA was prepared to assume the task.

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India's Options for Fueling Tarapur

India has three options for fueling the Tarapur reactors as long as it is unwilling to accept US conditions for supplying low enriched uranium. All three would force India to violate the prior consent provisions of the Agreement for Cooperation or negotiate an amendment:

- Buy low enriched uranium from another country such as France, Italy, or the USSR. [REDACTED] some senior Indian officials believe that the United States might be persuaded to allow India to pursue this option, which requires the shortest lead time. Our view is that, in principle, India is opposed to external dependency, but would choose this option, if available, as an interim measure. [REDACTED]
- Enrich its own uranium. New Delhi is conducting research into centrifuge enrichment but would need five to ten years to build the necessary facilities. We do not believe that an enrichment plant to supply just two power reactors would be worth the cost. [REDACTED]
- Make fuel for Tarapur from plutonium recovered from reprocessing spent nuclear fuel (MOX). [REDACTED]

The MOX Alternative

We believe that India has settled on the last option as its preferred, long term solution to the impasse with the United States. [REDACTED] key figures in the Indian nuclear program, including Raja Ramanna, Director of the Bhabha Atomic Research Center, favor this alternative. We also believe that India has implemented this option in a manner designed to forestall a confrontation with the US during the Gandhi visit:

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- IAEA officials in Vienna told US officials in April that several shipments of spent fuel from reactors at the Rajasthan atomic plant have been made to PREPRE which we believe will be used as the initial source of material for the production of MOX. The IAEA officials expect reprocessing of the Rajasthan fuel, which is safeguarded but does not fall under the 1963 agreement with the United States, to begin in a few months. Use of this fuel source allows India to begin preparation for making MOX without confronting the US over the issue of prior consent to reprocess spent fuel from Tarapur. [REDACTED]

[REDACTED]

We believe that India will not reprocess Tarapur fuel until summer 1983 at the earliest. If Rajasthan fuel is reprocessed first, which we believe is likely, PREFRE will be able to handle Tarapur fuel only after its equipment has been cleaned and reconfigured to accept it. India informed the IAEA in May that it intends to ship power reactor fuel from Tarapur to the PREFRE plant--ostensibly because the Tarapur storage pond is nearly full--and will place the material under safeguards. This move is designed to underline what Indian officials implied in their statements to US diplomats, that the United States has only the right to be informed of India's intentions to reprocess Tarapur fuel, but not the right of prior consent. We believe that India expects the United States to modify or terminate the 1963 agreement rather than see India violate it.

Indian assertions that the shipments of Tarapur spent fuel to PREFRE are needed to provide additional space in the Tarapur spent fuel pond cannot be technically substantiated. Based on the experience of other countries, we conclude that it would take India only six months to build enough storage space on site to accommodate Tarapur's needs for several years. We believe that a decision to build such storage is unlikely because it would compromise India's arguments in favor of reprocessing and a fully closed fuel cycle. Finally, according to published Indian design data, the PREFRE plant is equipped to hold only a small quantity of Tarapur type fuel elements and has little available space because of the shipments from Rajasthan.

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India appears to be having some technical difficulties in developing MOX, and converting the Tarapur reactors to accept it. India would be the first country to run a power reactor exclusively on this hybrid fuel. We believe that at the Bhabha Atomic Research Center engineers would have to grapple with many new and unfamiliar technical problems that could be solved only through painstaking experimentation.

The MOX alternative nevertheless is attractive for political and psychological reasons. A successful program would boost India's image at home and abroad by demonstrating the country's nuclear independence and technological superiority. Because New Delhi has been threatening to institute such a program for several years, to back down now would be embarrassing.

#### Outlook

Despite the many difficulties, we believe that Gandhi is prepared to make some short-term compromises on the Tarapur question and the continuing US role in the Indian nuclear program in order to improve relations with the United States. In December 1981 she stated publicly that the Tarapur decision would be taken within the context of "India's national interest and overall relations with the United States."

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[REDACTED] Indian officials have decided not to raise the issue during the Gandhi visit on the grounds that nothing would be gained by highlighting the disagreement. Until the PREPRE plant is ready to reprocess Tarapur fuel, India will reprocess Rajasthan fuel. India is prepared to use low enriched uranium from another supplier country until the MOX is ready. New Delhi will not challenge the terms of its agreement with Washington until the PREPRE plant is ready to handle Tarapur fuel. [REDACTED]

Despite the air of calm over the Tarapur issue that India is currently projecting, the time for Gandhi to act is running out. We believe that the plant could continue operations until late 1983 by reusing prematurely discharged fuel elements, but at only a fraction of its rated capacity. Because the spent fuel pond is nearly full, additional on-site storage space must be found or the reactor will have to be shut down. [REDACTED]

We believe that New Delhi will continue to finesse the Tarapur issue so that it can approach foreign suppliers for help in overcoming the bottlenecks plaguing the domestic nuclear power program. [REDACTED] India has already begun to contact vendors in France, Italy, and Japan for equipment that indigenous industry has apparently been unable to manufacture on a timely basis to required specifications. By maintaining its reputation for observing international agreements, India would hope to have the widest range of options for procuring equipment and replacement fuel, if needed. [REDACTED]


Therefore, we believe that India is seeking:

- An orderly termination by mutual consent of its nuclear cooperation agreement with the United States which would allow India to retain its peaceful nuclear explosion option, avoid safeguards on all of its nuclear facilities, and proceed with its preferred fuel cycle policies.
- US acceptance of reprocessing of Tarapur spent fuel under IAEA safeguards and the eventual refueling of the reactors with Indian-produced mixed oxide fuel under safeguards. [REDACTED]

In order to achieve these objectives we believe that the Gandhi government will hold out the continuation of international safeguards as the reward for US acceptance of the end of the bilateral agreement and the refueling of Tarapur with MOX in the belief that the United States will not want to risk damaging the international nuclear nonproliferation regime by seeing India terminate a safeguards agreement. India has circumvented the United States on safeguards questions by dealing directly with the IAEA on the shipment of Tarapur spent fuel to the PREPRE plant. [REDACTED]

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In the final analysis we believe India ultimately intends to refuel the Tarapur reactor with MOX with or without US prior consent, but under safeguards.

