

## Indo-U.S. nuclear deal: Safeguards for breeder reactors a key obstacle

U.S. unwilling to accept Indian stand

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Global Research, January 21, 2006

The Hindu 21 January 2006

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*A close look at the state of negotiations between India and United States on the implementation of last July's Indo-U.S. nuclear deal suggests things are not going as smoothly as the two governments are suggesting. In particular, Washington is refusing to accept New Delhi's stand that its indigenous fast breeder programme will not be subjected to IAEA inspections.*

As India and the United States concluded their third round of technical talks on the planned separation and safeguarding of Indian civilian nuclear facilities this week, the status of the country's fast breeder programme is emerging as a key obstacle to the conclusion of an agreement acceptable to both sides, The Hindu has learnt.

According to sources familiar with the ideas exchanged by both delegations, the U.S. team, headed by Under-Secretary of State for Political Affairs Nicholas Burns, is unwilling to accept India's position that the fast breeder, as an R&D programme, will not be put on the list of civilian facilities that are offered up for safeguards and inspections by the International Atomic Energy Agency (IAEA).

"Nothing unique"

The American delegation is understood to have argued that there was nothing unique or distinctive about the fast breeder technology, which warranted an exception being made for it. They argued that if Japan could agree to subject its Joyo experimental breeder reactor and Monju prototype reactor to IAEA safeguards, there was no reason why India could not.

Both reactors have been under safeguards since their inception and today are subject to full-time advanced verification systems such as 'neutron coincidence counters', radiation monitoring systems and fuel flow monitors, in addition to video surveillance. If India does not accept safeguards on its breeders, the U.S. argues, it will be very hard to get the Nuclear Suppliers Group (NSG) to sign off on a rule change enabling nuclear commerce with India.

Thursday's meeting here was apparently the first time the Indian side formally got to learn of America's insistence on safeguarding the 20-year old Fast Breeder Test Reactor (FBTR) and Prototype Fast Breeder Reactor (PFBR) at Kalpakkam, near Chennai. Even as recently as December last, following the conclusion of the second round of talks, well-placed Indian officials told The Hindu that the breeder issue had never been raised by the American side.

At Thursday's discussions, however, the Japanese analogy for safeguards cut no ice. The Indian side pointed out that there was no basis to compare India with Japan when the July 18, 2005 agreement spoke of India assuming "the same responsibilities and practices and (acquiring) the same benefits and advantages as other leading countries with advanced nuclear technology, such as the United States." Japan was a non-nuclear weapon state under the NPT and the status of its safeguards agreement with the IAEA had no bearing on what India should do.

India also believes that the breeder technology plays a much less important part in Japan's overall nuclear energy mix than it does in Indian plans. Unlike the Japan Atomic Energy Agency, which has the freedom to source components and technology from any part of the world, India's Department of Atomic Energy has had to rely on its own resources and technologies.

Allowing IAEA inspections will seriously compromise the quality and scope of ongoing research, nuclear scientists who have worked closely on and led the breeder programme told The Hindu .

"Moving fuel from one section to another would then require informing the IAEA in advance, waiting for their inspector to arrive and approve, and then executing the task concerned," said one former DAE scientist. Asked at what stage he would be willing to offer the breeder technology for inspections, another senior retired nuclear official said there was no reason to ever subject breeder reactors to safeguards. "Of course, if we decide to use some of the spent plutonium from imported light water reactors in a breeder, that particular reactor can come under safeguards under the principle of pursuit."

At the heart of the U.S. insistence on safeguarding the fast breeders is its reluctance to accept India as a nuclear weapons state, scientists familiar with the programme's potential weapons application say. Though India wants breeders for civilian purposes, a breeder reactor can also be used as a "laundry" to breed weapon-grade Pu-239 from reactor grade plutonium (Pu-240) generated by pressurised heavy water reactors (PHWRs). Placing the breeder programme under safeguards, then, ensures that the reactors are never used as a "laundry", effectively limiting India's ability to produce fissile material through this route.

Though the breeder programme has emerged as a potentially intractable issue, news from the technical talks was not all bleak. There was some forward movement on the question of CIRUS, the Canadian supplied 40 MW research reactor which has been a mainstay of the Indian nuclear weapons programme despite a 'peaceful use only' pledge at the time of its purchase. The American side has given ample indication of its willingness to let bygones be bygones, provided India is also able to convince Canada about the reactor's final disposition.

One of the arguments the American side must contend with is that if India is forced to convert CIRUS to a purely civilian facility, its strategic programme would likely require the construction of a brand new research reactor whose capacity — i.e. throughput of fissile material — would probably be more than 40 MW because of economies of scale.

All told, the prospects of a substantial agreement on separation and safeguards being reached before the visit to India of President George W. Bush look slim, though Indian and U.S. officials continue to insist this is the deadline they are working towards. With Prime Minister Manmohan Singh likely to visit Washington in 2007, however, there is already talk of next year being a more realistic timeframe for resolving outstanding issues.

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