

## SEPARATION OF CIVILIAN AND MILITARY N-FACILITIES A REPORT

*(Report of the IPCS Panel Discussion held on 24 March 2006, with Sidharth Varadarajan, G  
Balachandran and Prof Rajaraman as panelists)*

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The separation plan was presented to Parliament on 2 March 2006 and the panel will discuss the next steps in implementing this plan. There are a host of opinions about this topic, but they focus around three basic perspectives. They are:

**Indian perspective:** The Indian perspective is that India has secured a favourable deal i.e. the DAE secured its objectives and hence the mood is euphoric. The noises made by the Left parties were for the record and they will get convinced after they are briefed by the UPA on this issue.

**US perspective:** Observing the debate in the US, it is evident that the Bush administration is on the defensive. Hence, their confidence to push the deal through US Congress is easier said than done. The objections raised in the U.S. are based on the following reasons:

1. Opposition to Bush has generally increased and he does not have the approval ratings of even Clinton a decade ago. Therefore, those who may have nothing against the deal per se but personal animus against Bush may create problems.

2. Non-proliferation votaries like Sandy Spector may contend that India is not a reliable partner because of its past behaviour when the CIRUS reactor was used for producing the fissile material used in Pokharan-I despite assurances. Another argument that could be put forward is that the plutonium produced in the 15 MW experimental reactor at Kalapakkam would be used for military purposes in contravention to the agreement signed with the French, who provided the highly enriched uranium. These arguments may be used to assert the "Indians are unreliable" argument. Further, he has stated that by placing CIRUS in the military list, India is engaging in a "continuing offence."

The **third perspective**, which has not been as extensively debated as the others, is the implications of this deal for non-proliferation. Even its strongest proponents cannot deny that global non-proliferation efforts have been eroded, and the non-proliferation regime has been weakened. Is India for strengthening or eroding that regime?

The Next Steps to be taken for India are pressing and immediate, and it needs to get its act together. The four fundamental questions the panel must focus on are:

1. What is the nature of the deal? Is it about civilian energy cooperation or designed to preserve the military option? Both are important, but which is more important. Further, how much plutonium is required for the Indian military programme.
2. What is more significant for Indian decision-making? Is it the influence of the Indian Atomic Energy Commission or the foreign policy establishment?
3. What will India's attitude be if the plan passes through US Congress with conditionalities and linkages? This aspect must be anticipated at this stage.
4. Should India participate in the debates raging in Washington? Should the India Caucus and other associated lobbies be activated to make out the case for India?

**Siddharth Varadarajan**  
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The central debates on the Indo-US deal over the past nine months need to be re-examined. The opposition to the 18 July 2005 agreement can be reduced to three broad issues:

1. The objection raised by the Opposition parties in Parliament, like the BJP, and a section of the strategic community is that the agreement is crippling India's deterrent capability, and India's nuclear weapons

capability is being capped through the backdoor.

2. A day before the separation plan was signed, Dr A.N. Prasad, Chairman of BARC, raised the second set of objections. He feared that if the proposed separation plan was accepted, the trajectory of India's indigenous civilian nuclear technology programme would be compromised. Hence, he wanted the breeder programme — an integral part of India's three-stage nuclear programme — to be kept out of safeguards.
3. The third set of reservations can be loosely classified as political or strategic. It centres on questions about wider or hidden costs India would pay that would prove detrimental in the long run. The jury is still out regarding this matter.

These are the central debates surrounding the issue. However, it must be reiterated that the Indo-US nuclear agreement does not compromise India's nuclear deterrent capability, though it does raise the costs associated with this programme. No military weakness accrues upon India. Nor does the deal compromise India's indigenous technological capabilities. This is largely due to the success of the India scientists in keeping the breeder programme outside the purview of safeguards. It is another matter that the manner in which the debate about the breeder programme played out will have its negative and harmful aspects.

Developing countries have been ambiguous about their nuclear programmes, choosing to hide their military programmes within their civilian nuclear programmes. Iran's

case is a contemporary example. Paradoxically, the political class and scientists have resorted to imbuing the breeder programme — originally meant for the civilian programme — with “strategic” colouration to win the day. Who was responsible for this line of reasoning remains unclear.

From the beginning, the scientists have contended that the breeder programme must be kept out of safeguards as it is still in the technology development phase, and, more importantly, developed with indigenous civilian technology. Unfortunately, no one has paid heed to this reason. After the January round of separation talks hit a roadblock over the status of the breeder, an insidious campaign to malign the scientists began. This led to panic among the scientists, leading to their adoption of the “national security” argument, which was the only option left to them to quell criticism, and also the only argument that sells in India’s warped political discourse.

Hence, the Fast Breeder Reactors (FBR), originally conceived for civilian purposes, is now knotted up with military-nuclear connotations in the current public discourse. This is problematic at several levels. Apart from giving credence to arguments articulated by Sandy Spector, it is problematic since it raises several questions inherent to the separation process like: how much constitutes India’s “minimum, credible deterrence.”

Here, minimum, credible deterrence does not mean specifying the number of bombs needed, but the margin of comfort required to deal with all eventualities. Prior to the nuclear deal,

anyone looking at India’s nuclear facilities could not rationally gauge which facilities were for civilian and military purposes. Today, it is known to be 35 per cent. Given this scenario, India must make efforts to engage with China and Pakistan to negotiate risk reduction measures and nuclear-related confidence building measures. Among the remaining implementation issues, the big question remaining to be tackled is the nature of the safeguards agreement. Apart from the perpetuity clause for civilian facilities, there are other issues that have to be negotiated. India needs to act fast. Secondly, the sequencing process has emerged which is not pressing. The additional protocol and the addition of a clause for exclusion of facilities based on national security is something India has to negotiate early. These clauses are present in the additional protocols for nuclear weapons states.

### **Sequencing**

Turning to implementation issues, sequencing will be on the following lines.

- The Atomic Energy Act will be amended by the end of April.
- On the basis of this amendment, hopefully without riders, the NSG will act upon the draft presented to them earlier, and take it up for consultations at the plenary in May. The action taken thereafter will essentially alter the application of paragraph 4(a) of the revised guidelines for the NSG on trigger list supply items. Basically, India will be made eligible to receive these items without the pre-condition of full scope safeguards. Following this

measure, any NSG member will be able to export trigger list items to India.

- Following this rule change in May, India must conclude a safeguards agreement with the IAEA on a priority basis.
- Then, condition two of the seven conditions that are embedded in the amended US Atomic Energy Act, which grants the US President powers to waive the implementation of Section 123 of the Act would be enforced.
- The President will forward the nuclear cooperation agreement to the US Congress, and after a period of 90 days (assuming there are no glitches), the nuclear agreement will be passed by Congress and the US would be free to export trigger list items to India.
- After this sequencing, the additional protocol will kick in.

### **Roadblocks**

As the Chair mentioned, the passage of the proposed Act through Congress will be difficult, but will muster enough support to finally be passed. The strategic value of this agreement to the US and the assertion made by it that Indian nuclear weapons are not a security threat to the US, but are, in fact, of strategic importance to the U.S. will garner bipartisan support to push it through.

### **Impact on Non-Proliferation Architecture**

India must join the raging debates in an aggressive manner, stressing its non-proliferation record, despite being outside the global non-proliferation regime and the NPT.

Neither the NPT, nor the NSG (which was a reaction to Pokharan-I in 1974)

prohibits nuclear commerce with India. Prior to 1992, Rule 3 of the NSG guidelines concerning export of trigger list items clearly stated that these items can be supplied to a country provided the facilities where the items were to be used were safeguarded. Under these rules, the Kudankulam agreement was signed, and France and China supplied LeU.

The rule change to paragraph 4 in 1992 (notified through an information circular issued by the IAEA in 1995) was in response to Iraq's clandestine nuclear weapons programme. The violator was a NPT signatory, but had still developed a clandestine facility. The additional safeguards formulated in response were a logical response to remedy the situation. This would widen the scope for inspections in countries that had already accepted safeguards. But, the Rule change would not have helped in the detection of Iraqi facilities. It can be argued that it was adopted to push countries to sign the NPT, as there were more than 40 countries at that time who were non-signatories. In the final analysis, Rule 4 is not an inherent aspect of the non-proliferation architecture. It serves as a cosmetic adornment that can be done away with. India needs to be aggressive on this count.

The threat to the non-proliferation system does not emanate from the agreement, but from three other directions:

1. The US' nuclear doctrine and its insistence on developing usable nuclear weapons.
2. Relentless drive to weaponize space and, related to that, missile defence.
3. Unilateral attempt by the US and its allies to destroy the core bargain of the NPT i.e. countries that agree not to

develop nuclear weapons are entitled to access nuclear technology for peaceful purposes.

To conclude, India must not oppose an arrangement whereby Pakistan also gets access to civilian nuclear technology. This will also make a region a safer place as Pakistan's facilities will also come under safeguards arrangements. India must also establish nuclear CBMs with Pakistan following the Indo-US nuclear deal.

China will not create a problem in the NSG. However, it does have a stake in maintaining the current non-proliferation regime due to its concerns about Japan. India must initiate a meaningful dialogue to address China's genuine non-proliferation concerns. India must also join China and Russia in preventing the weaponisation of space and against missile defence, which is far more dangerous for the global nuclear non-proliferation architecture.

**Prof R. Rajaraman**

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A number of "next steps" have to be taken by India regarding the timetable for separation, and its negotiations with the IAEA. However, currently these "next steps" are being taken elsewhere.

The first step being taken is by opinion makers and the strategic community in the US. Second, is the introduction and passing of the necessary legislation in the US Congress. The NSG meeting in May is the final step. All these important steps will be taken outside India.

The immediate reaction of the academic, energy and arms control communities in the U.S. is negative, and this is without exception. Some of their objections warrant serious consideration, and are listed in increasing order of importance:

1. Many liberal intellectuals in the US are unhappy with President Bush for a variety of reasons ranging from his fiscal policy, handling of Hurricane Katrina, Iraq and Iran. But, their objections have nothing to do with the Indo-US deal. As the Chair mentioned, it is out of personal animus for Bush, who has an all-time low approval rating.
2. The second set of reasons is annoyance that India has negotiated a better deal, with an impression created that the US has surrendered to Indian demands. Even Bush's intervention to push through the deal in India was criticized due to his unpopularity.
3. There is a considerable pro-Pakistan and anti-India section in the security community.
4. The non-proliferation "ayatollahs" are against the deal "in principle." But, they are hard pressed to substantiate their claims that this deal will provide an impetus to horizontal proliferation. It is another matter that vertical proliferation will increase.

These reasons will, however, will not affect the Congress' final decision. Senator Richard Lugar, the Chairman of the Senate Foreign Relations Committee, has already made positive statements, but has stopped short of

approving it. This is due to the White House's efforts to keep him in the loop during critical stages of the negotiations. Some of the earlier unhappiness of the US Senate was because it was not consulted. But, Chairman Hyde, Chairman in the House of Representatives, is still critical and may wish for a more detailed discussion. Hyde's committee may insist on certain conditionalities, which may scuttle the deal but could possibly work.

One conditionality is that India voluntarily stop fissile material production like other nuclear weapons states. This condition is absurd because India will be negating the provisions of this deal i.e. the separation plan to earmark certain nuclear facilities as military for exclusive production of fissile material. This conditionality, if imposed, will scuttle the deal. What the US Congress is likely to do is postpone discussion of this issue and drag its feet on legislation until August. By then it will be too late as the US Congress approaches mid-term elections.

The administration is optimistic that the legislation will be passed. But the timetable is not clear. It is extremely unlikely that it will get done before the May meeting of the NSG. If the debate has to resume after summer, and worse, after the mid-term elections, then the ground to be covered will be difficult. The momentum will be lost and any action thereafter will depend on the election results, and Bush's clout. India's interests lie in a bipartisan acceptance of the deal, as it will need to be executed over the years.

Finally, it is a matter of concern in the US that India has been given a license

to build a huge arsenal, much more than what minimum deterrence requires. Even if India had placed all its existing reactors under safeguards, except for Dhruva and CIRUS, it should still have around 500 kgs of plutonium. This will account for some 100 nuclear weapons. Even if CIRUS is closed down by 2010, India is still left with enough plutonium for 125 nuclear warheads, as CIRUS and Dhruva produce about 25 kgs plutonium per year.

The "national security" assertion propounds an argument that India needs many more nuclear weapons for its minimal deterrence. Unfortunately, in the past months, the debates have painted the breeder programme — meant for the thorium cycle and part of Bhabha's three-stage nuclear programme — as military, since legitimate concerns like industrial secrecy and the experimental nature of its design were not given due credence. Hence, the DAE scientists brought in the national security argument and misrepresented the purposes of the FBR. This projects a picture that India wants to produce more weapons to achieve credible deterrence and caused a stir in Pakistan and the US. Already, there are opinions in Pakistan, like that of Abdul Sattar, the ex-foreign minister, who advocates an increase in Pakistan's fissile material production capability by replicating the Kahuta plant to address "nuclear stability" in South Asia. Therefore, this may bring about an arms race that has unintendedly been initiated by India. It must immediately make public statements to alleviate these doubts and concerns regarding its intentions.

#### **PR Chari**

As far as the non-proliferation lobby is concerned the PHWRs and the FBRs

are proliferation concerns as the PHWRs produce copious plutonium that can be used in nuclear weapons and the FBRs produce more fissile material than what is fed into them. Therefore, when the FBR is placed in the military basket, it will raise hackles and be seen as a proliferation strategy adopted by India. Further, when the FBR is placed in the military side, India is segregating Stage-II of its atomic energy programme from its other stages, raising serious technical problems.

### **G Balachandran**

*Independent Analyst*

The Indo-US deal is neither illegal (as articulated by David Albright), nor does it compromise India's industrial secrets. Both claims are false because India is not the only country whose industrial secrets the IAEA is privy to. The record of the IAEA shows that it will not leak these secrets. A cursory look at Germany, Denmark and Sweden (with advanced technology for uranium enrichment) proves this fact. India's nuclear weapons programme will not be "capped."

A legitimate concern about the next steps is whether the NSG will take them before the US Congress? One school of thought speculates that it might want to wait and see what the US does before acting itself. In that case postponement in the US Congress will create problems. In all probability, the US is aware of this scenario and will be working to avoid it.

For the US, the willingness to arrive at a deal was a political decision. In India, there is an impression that the DAE had a veto on the negotiations. The US Congress might attach conditions like India must stop fissile

material production, which will scuttle the deal.

Another concern is that Pakistan will embark on an arms race. The Pakistani nuclear establishment is not capable of expanding its infrastructure by building more Kahutas. Pakistan had clandestinely smuggled industrial ring magnets for its present programme. It does not have the wherewithal to expand its programme by a factor of three. Further, Pakistan does not have stocks of natural uranium. Speculation about an arms race in South Asia is frivolous because even with only 35 per cent of fissile materials earmarked for military purposes, India has 8,000 MW thermal. By way of comparison, at the height of the Cold War, the US had a total plutonium production of 10,000 MW thermal. India has 8,000 MW thermal available for its military programme even with safeguards. Pakistan does not have the industrial capacity to expand to that level.

No other country has placed such a large number of its reactors under safeguards. Fears of India receiving enriched uranium are without grounds as this uranium will be safeguarded at all times.

The dangers along the way are:

- The DAE's paranoia about losing their industrial secrets vis-à-vis the FBR is unfounded. There are enough checks and balances in the IAEA to ensure total secrecy by the inspectors. Their complete reports are not available even to the IAEA Director-General.
- Even if the US Congress attaches conditions, the NSG is not bound by them. Hence, India can, theoretically, import

from the NSG countries and not the US.

In the final analysis, the deal will pass through the US Congress. India must, however, address some key questions with a hands on approach.

## DISCUSSION

- *How would the Indo- US nuclear deal impact military capability? Does it not mean that India cannot test nuclear weapons? Is it true that if India detonates a nuclear bomb the deal will be called off?*

There will most definitely be this impact. Even if the Indo-US agreement was not in place and if India detonates, there is an Arms Export Control Act under which India will face sanctions. Hence this Act ensures that the United States will be obliged to suspend trade with India, impose restrictions on high technology transfers, commerce etc. The 1998 sanctions, which have nothing to do with the Atomic Energy Act, will also fall in place if India does another test.

- *Has India committed to no further testing? Has this been imposed on us? What are its implications?*

India has given a bilateral commitment not to conduct further testing. The bill before the Congress specifies three clauses in the Atomic Energy Act of 1954 that have been exempted:

1. Requirement of full scope safeguards.
2. There is another clause which requires an extra condition before license can be given by the Nuclear Regulatory Commission. The bill is an enabling legislation permitting the American President to present the deal as an 'agreement for cooperation with India'. Even if that bill is passed, exports will only take place when the Nuclear

Regulatory Commission licenses an export, and one of the licensing conditions is whether a country has full scope safeguards. Now what this agreement says is that the Nuclear Regulatory Commission need not use this criterion for granting an export license to India.

3. The Atomic Energy Act says that after an agreement comes in place, if a country detonates a nuclear weapon, cooperation will be suspended with that country.

There is another clause in section 129 of the Atomic Energy Act that says, if a country is receiving exports and has a program for accumulating fissile material for weapons production, there should be no exports to that country. Now, since the whole section has been made inapplicable to India, which also includes the condition of detonating a nuclear device, both parties have included the no testing clause in the agreement but that is independent of the Atomic Energy Act. Irrespective of whether Bush had included this in the bill before the Congress, if India detonates, then under yet another section of the Arms Control Act he will be obliged to suspend all cooperation. The amendment to the Atomic Energy Act made specifically for India will be called off.

- *Are the nuclear scientists confident about the deal? Does the military have confidence in this deal?*

This question is independent of the deal. Whether this deal shows that the nuclear scientists are sensitive to the armed forces requirements or whether they have still to develop cohesion between themselves is a point to ponder over.



- *If the fast breeder reactors are put under safeguards and the amount of plutonium India takes out is measured, how are the safeguards not harmful to India? Would not the whole world, especially Pakistan and China, want to know about India's capability to operationalize?*

The material under safeguards cannot be used for weapons production. Therefore, if the fast breeder reactors come under safeguards, the plutonium cannot be used for weapons production. Reactors for military purposes will not be under safeguards. Does this whole process affect the operational capability of fast breeder reactors? No. A safeguards inspector only comes to the reactor to check its safety mechanisms. He has no say in how the plant operates.

- *The Indian Prime Minister has been quoted in the July 18<sup>th</sup> agreement as saying that India will work towards the FMCT. How will this affect India's operational capability?*

India has been working on FMCT for quite some time. We have not set a time limit. Hence there is nothing wrong with the Prime Minister reiterating India's intention of working towards the FMCT.

- *What about issues like waste and safety? Have they been sidelined in the pursuit of a nuclear deal by the two countries? What about the issue of deterrence?*

These are elements independent of the deal. Whether we have deterrence and operational capability has nothing to do with the deal. As far as safety is concerned the material under safeguards cannot be used for weapons purposes. This does not affect the way a safeguarded breeder works. Safeguards reports are

confidential and not distributed. The annual report that the IAEA and its Board of governors gets is a sanitized version that does not even mention the name of the country where inspections have taken place. It only comments on issues of safeguards on reactors. It cannot be passed around. The question of integrating the nuclear weapons into the armed forces is a question to ponder over in future.

- *The plutonium percentage which was around 35% that was available for nuclear weapon purposes has now come down to about 10% after the deal. Does this create a problem?*

Nuclear weapons are viewed as a strategic deterrent. They need not be produced in large quantities. Plutonium can be recycled again and again. Plutonium has a half-life of 24000 years. Only the metallic structure of a plutonium bomb can deteriorate.

- *Is a true FMCT practicable?*

The FMCT is not in sight yet. It is an issue for the future. The United States might turn around and say that until FMCT is negotiated, India should cease production of fissile materials to create confidence in the future. Even this will not affect the plutonium available at present.

- *Will India move towards nuclear energy or nuclear weapons? What is the significance of the fast breeder reactor? Were they kept out of safeguards to protect technology or because they could contribute to the strategic programme?*

The research and design changes of the fast breeder reactor will be affected by inspections. However, this cannot be given as the real reason for not putting FBRs under safeguards as the fast breeder reactors of other countries

are also being inspected. The AEC officials brought in the 'national security' reason to convince the political establishment to bargain for keeping the FBRs out of safeguards. Unfortunately, however, it conveys the impression that India wants to possess much more than a minimum deterrent.

- *How will the principle of reciprocity enshrined in the July 2005 agreement be ensured in the present deal?*

This is still in the process to be worked out by both sides. The deal was possible due to a sudden breakthrough in the negotiations pushed by the personal intervention of President Bush. The consequences of the nuclear deal are not yet clear. Now the sequence after the deal is getting clear. India has placed the separation plan before the US and the bill is waiting for approval from Congress. Once this approval is given the issue of separating the reactors will be taken up in close consultations with the IAEA.

- *Is it not necessary that the Indian policy of minimum nuclear deterrent along with no first use be reemphasized?*

It has been reemphasized recently by the Indian Prime Minister through the Indian media. But if it is reemphasized repeatedly, there is no harm.

- *If the nuclear deal is not passed by Congress before the Congressional elections in November, what are the chances of the deal going through after the elections?*

It depends a lot on the outcome of the Congressional elections. It is assumed that the present Congress will pass the deal.

- *Will there be an annual overview of exports by the United States?*

There is an annual review of exports by every country periodically. But if India is satisfying the requirements put forward by the deal and the NSC for exports then there should not be any problems.

- *What is Pakistan's reaction to the deal?*

Pakistan is not happy with the nuclear deal, and with the differing body language of President Bush in India and Pakistan. They noticed the wonderful chemistry between President Bush and Prime Minister Manmohan Singh and the stiff communications President Bush shared with President Musharraf. President Bush also brought the Afghan complaints to Pakistan and this scuttled any chances of Pakistan getting specific concessions. Pakistan might have been happier if the nuclear security issue had not been raised by the Indian side during the deal.

- *Is the exclusion of fast breeder reactors from the civilian list in the nuclear deal a mistake?*

It was a mistake. If it was included in the civilian list it would have not hurt in terms of nuclear energy. In terms of energy security it wouldn't have hurt at all. It would have simply made it more acceptable to the world and in terms of arms control and reducing nuclear dangers by having these reactors under safeguards.

- *Would the nuclear deal affect the thorium programme?*

The nuclear deal will not affect thorium programme which is still at the level of being a great idea. There is no commercial thorium reactor functioning anywhere in India and even the plutonium breeder reactor is functioning with many glitches around the world. IAEA has no objection to producing U-233 out of

thorium provided that U-233 does not go into weapons production. So, unless we had an illicit weapons programme, thorium production is okay.