

Key Questions on the Nuclear Initiative

1. Why do we need an Indo-US nuclear deal?

Our nuclear diplomacy is not aimed only at an Indo-US agreement. It has a much broader objective - to free India from the shackles imposed by the Nuclear Non Proliferation Treaty. This Treaty was never accepted by India because it was inherently unequal. It recognised 5 countries, i.e., U.S., Russia (then the Soviet Union), Britain, France and China as the only countries entitled to have nuclear weapons, with all other countries categorised as non-weapons states. Under this treaty, access to nuclear fuel and technology was restricted to those who joined the NPT, and all transfers to non-weapons states were subject to IAEA safeguards.

Our objective is to get rid of these shackles to expand our nuclear energy programme and to remove restrictions on research collaboration.

2. What are the energy benefits of the nuclear deal? Will nuclear energy make a difference to energy security?

It makes a huge difference. At present, our nuclear generation capacity is around 3000 MW. The maximum that we can reach using domestically available uranium is 10,000 MW. If we can import more fuel we can accelerate our strategy towards adopting thorium based reactors which will enable us to get to over 600,000 MW of nuclear capacity by 2080. If we can't import uranium we will reach only 208,000 MW by 2050.

Our nuclear energy strategy involves three stages. The first stage relates to reactors using uranium as the fuel. All the existing capacity is of this variety. The second stage is the fast breeder reactors using depleted uranium and plutonium. We are leaders in this technology (Russia and France are the only other countries with FBR technology) and we have developed indigenous FBR technology which has been tried out on a pilot 40 MW reactor for two decades. We are about to commission a 500 MW commercial scale FBR reactor. We expect to expand the FBR programme using spent fuel from the conventional uranium based reactors. In the longer run we plan to move to thorium based reactors. India has the world's largest resources of thorium and once the technology for thorium based reactors is proven we can greatly expand our capacity using these reactors. However, the pace at which we can bring in thorium depends upon the pace at which we can expand conventional and FBR capacity.

If we are limited to conventional reactors using only domestic uranium the total nuclear generating capacity we can put in place, including thorium, by 2050 will be 208,000 MW. However, if we can build an extra 40,000 MW of conventional uranium based reactor capacity between 2012 and 2020 then the total nuclear generating capacity by 2050 will be a little more than 610,000 MW.

The ability to import fuel for 40,000 MW of capacity between 2012 and 2022 will allow us to install an extra 400,000 MW by 2050. To make up the difference using coal based generation would require about 1800 million tonnes of coal per year in 2050.

3. Isn't nuclear energy is very expensive, so that our reliance on coal and oil would continue.

Nuclear energy has higher capital costs than coal based electricity but much lower running costs. **Per unit of electricity produced nuclear energy is actually quite competitive with coal.** Besides, over time the relative cost of nuclear energy will improve further as oil prices are expected to rise and coal prices rise with them. We will continue to depend on coal but the extent of that dependence will be much less if we can develop nuclear power to its full potential.

At present we rely on nuclear energy for 2% of our electricity needs. France is at 70% and Japan 40%. Besides, as the world tries to shift away from carbon nuclear energy is one clean alternative. We expect that massive investment in nuclear energy technology would be made in the world which will also reduce costs. But India must have access to these technological developments.

4. The agreement does not recognize India as a Nuclear Weapon State.

This complaint relates to the fact that India is not being included as a Nuclear weapon state under the NPT. This would require an amendment of the Non Proliferation Treaty which is unlikely to be agreed by all signatories. We also have to keep in mind that we have consistently opposed the NPT as an unequal treaty. It is therefore not consistent with that position to try to get into the NPT as a nuclear weapons state. What we have negotiated is a unique arrangement which allows us to retain our military nuclear capacity while freeing the flow of nuclear fuel and technology for civilian nuclear energy use. In effect, we achieve *de facto* effective

legitimation of our weapons capacity, since no restriction is placed on what we do in our military reactors.

5. Are there other technology benefits?

Yes. At present the NPT restricts flow of technology and possibility of research collaboration. Removal of technology restrictions would enable us to reduce the costs of our nuclear energy programme. It would also enable our scientists to participate in collaborative research. Looking ahead, nuclear energy is free of CO₂ emissions and to that extent is environmentally preferable. It is therefore increasingly seen as part of the solution to global warming. We can therefore expect a surge of investment in the world in nuclear energy, and also in research related to it. It is to India's advantage if the benefits of this research are freely available to us and, equally important, our scientists can participate and collaborate in the expanded global effort. Self reliance has helped develop our indigenous capability. But this does not mean we must continue to remain isolated from global research in future. On the contrary, we must strengthen our effort at FBR development and simultaneously participate in the world effort in civil nuclear energy.

6. Will India lose its right to further nuclear tests?

No. Neither the Indo-US 123 agreement, nor the IAEA safeguards agreement makes any reference to nuclear tests. These agreements therefore do not constrain us in any way as far as testing is concerned. We are free to conduct tests if we feel we have to.

Obviously, a decision to test or not has to be taken in the light of other considerations.

It is relevant to note in this context that **the NDA government had announced a unilateral moratorium on nuclear tests.** The present Government has continued that policy. PM Vajpayee had gone even further and stated in the UN in a formal speech that his Government was willing to sign the Comprehensive Test Ban Treaty (CTBT) if the US Congress ratifies it. The US Congress has not ratified it so the commitment remains untested, but in view of commitment, it is odd for the BJP to raise this issue now.

7. U S would be able to influence our foreign policy, as was the case when we voted against Iran at the U.N. (Left Parties).

The two agreements do not impose any constraints on our policy or restrict our right to vote in any UN forum as we wish. The foreign policy issue is probably being raised because the US Hyde Act, which is the enabling legislation in the US, contains references to what the US Administration should do to persuade India to support the US position on various issues.

The Hyde Act is in no way binding on India. It is a US legislation which prescribes what the US President should do and the US President has said that the requirements objectionable to us are not mandatory, and the Administration is not bound by them. The US government will lobby us to support them. That is their right, and they do it all the time, as do all governments. However, we are under no obligation to do what they want.

We have demonstrated our independence by making it clear to the US that we do not support their policy on Iraq. The BJP at one stage even considered sending troops to Iraq to support restoration of peace after the US invasion. We have not done anything of the kind.

We have also made it clear to the US that we do not support them on many aspects of their Iran policy. Our vote on Iran was not a vote against Iran. It only reflected our view that as an NPT signatory, Iran must fulfil her obligations. What those obligations are is for Iran to determine.

8. U S can stop further supplies of fuel at will, i.e., if we go against their foreign policy interests (BJP.)

The US is not the only fuel supplier. The nuclear deal is not just a deal with the US. The India-US civil nuclear cooperation agreement is the key to open the door for dealing with the Nuclear Suppliers Group, which includes 45 countries, many of whom are fuel suppliers. Once the NSG approves the deal we can then contract with any of them for fuel and indeed **we should develop multiple sources.**

Moreover, the agreement allows India to build a strategic reserve of fuel to meet the lifetime requirement of civil reactors under safeguards. This gives us a mechanism to insure ourselves against interruptions.

Incidentally, the BJP's concern about independence from US pressure is a little inconsistent with their claim that they want a strategic relationship with the US. If the US's interests are sufficiently

aligned with us to think of a strategic relationship why do we fear pressure on this issue?

9. We cannot go to international courts if U S violates terms of the treaty.

This is true of any treaty. International courts are recourse only when both parties agree. However, as pointed out above our nuclear diplomacy is aimed at opening the doors of all NSG countries. We can safeguard our interests by ensuring that we do not deal only with one country.

10. We will have to put 2/3rd (14 out of 22) of our nuclear plants for inspection by IAEA. All nuclear plants producing more than 60 Kg of nuclear material would be exposed to IAEA access at all times.

The essence of the deal is that we separate military from civil reactors and it is upto us to retain as many reactors as we need outside inspection. Of the 14 plants being put under safeguards – six are already under safeguards. In any case the reactors not covered by safeguards are more than sufficient for our strategic requirement.

The provision relating to 60 Kg relates not to all plants but only to facilities already safeguarded where the inventory exceeds 60 Kgs. In such cases inspection can take place at any time. There is no reason to object to this provision.

11. R & D facilities will also have to be put up for inspection.

There is no provision requiring R&D facilities outside safeguarded nuclear reactors being subject to inspection.