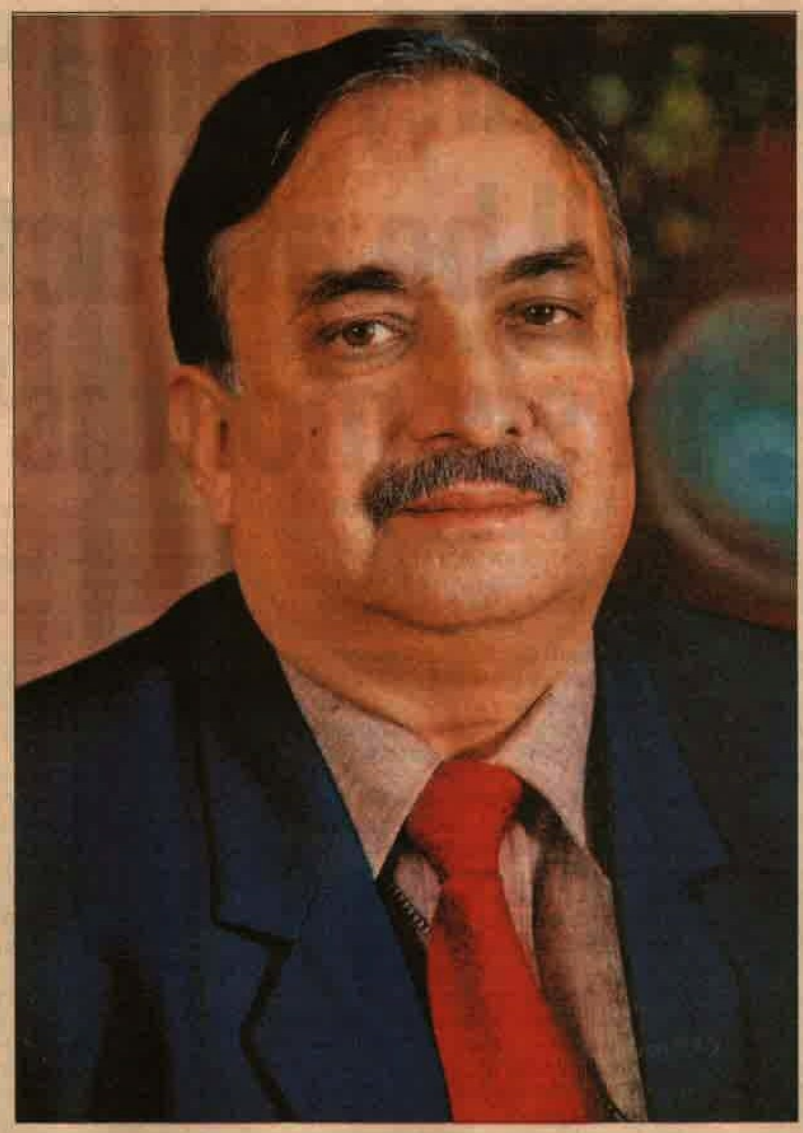
'We will raise capacity 5-fold in five years'

The nuclear deal between India and the US has infused a new lease of life into the country's sole nuclear power company. The Nuclear Power Corp of India (NPCIL), which had so far managed to install 4120 mw of capacity, has set its eyes on an ambitious target of 22,000 mw in the next five years. **S K Jain**, the chairman and managing director of NPCIL, tells *DNA Money*'s **Promit Mukherjee** that the company is well equipped to grab the opportunity coming its way



If there had been no deal...

Today, NPCIL has 17 reactors under operation and five under construction, which will be commissioned to the grid next year. So then, we will have 22 reactors. This will have a total capacity of 4,400 mw based on heavy water.

The current five-year plan calls for eight reactors of 700 mw with our own technology and fuel. That will take the programme to 10,000 mw. This is the maximum that can be produced with the available resources of uranium in the country.

So, in the absence of a deal, we would have generated some 10,000 mw for the next 20 years. Plus another 2,000 mw by fast breeder reactors.

The subsequent stages, wherein we will be using plutonium and thorium, is a long-term programme, which will take another three to four decades.

Still this 10,000 mw would have been a problem, because of the difficulties in the country — environmental apprehensions over uranium mining kept mining projects from commencing, so mining could not keep pace with the nuclear power programme. As a result, the 17 reactors we have are operating at 50% capacity.

Even the eight units of 700 mw which will be taken up in the current five-year programme were actually supposed to be taken up in the last five-year programme.

Therefore, the expansion of nuclear capacity has been deferred by four to five years just because of the constraints of mining.

How much fuel will you need to run the reactors at 100% capacity?

There are already 6 reactors under safeguards. Out of these six, only one is a heavy water reactor, for which we require fuel. Eight more reactors that are proposed under the XIth five-year plan will be brought under International Atomic Energy Agency safeguards. For these nine reactors (1 heavy water + 8 new reactors), we require 400 tonne of natural fuel per year. And around 40 tonne of enriched uranium for Tarapur I and II and 60 tonne per year of enriched uranium for Kundakulam I and II.

When do you expect fuel deliveries?

There are two issues related to that — as per the timeframe, the eight reactors have to be placed under civilian domain in next four to five years. The immediate ones among these eight are three — Rajasthan II and Rajsthan V and VI. For these, we expect the fuel to be with us in next two to three months. And the requirement will be around 200 tonne per year.

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When do you expect plants to run at 100% capacity? Will that be possible under the current five-year plan?

Definitely. We will achieve that in two to three years. It is actually linked to when we expect to bring our reactors under safeguards. If the government wants to expedite the situation, then we may achieve it even before the end of the five-year plan.

What kind of communication has there been between you and the ministry on the issue of fuel supply?

We were given a green signal long time back to do exploratory-preparatory talks with fuel suppliers in the world. In the last two to three years, we have been in discussions with several of them. So we have got a fairly good understanding of who the suppliers are. They are spread across the world in countries such as Canada, the US, France and Russia and have indicated to us that they will not have any difficulty in supplying fuel once they are allowed to enter into contracts with India. So now since the deal is signed, it will not take more than two to three months to source fuel from these countries.

> "We will be meeting 20-25% of the country's total electricity needs. Thermal stations will still be the major supplier of electricity, since our power requirements are growing at a much faster pace."

By the end of the XIth five-year plan, what will be the total capacity of NPCIL?

The total installed capacity of NPCIL will be 7,000 mw by March 2012 and it will be at a higher plant load factor (meaning, power generation will be above capacity).

In spite of running plants at a lower capacity, NPCIL is a profit-making company?

This is our worst year in terms of the fuel shortage situation. Earlier, a number of new reactors were coming in, but we had some uranium stock available with us, so we were able to run them at 70% capacity. Only last year, the capacity went down to 60% and this year, it's even less than 50%. So this year, definitely, the profits will be hit hard, in fact, very hard, and operational profits are going to be minimal.

Are you looking at revisiting your targets?

We initiated an exercise in 2006 when we were formulating the XIth five-year programme. At that time, we considered the possibility of expanding capacity considering that we will get access to foreign nuclear technology. We considered starting work on ten imported light water reactors of 1,000 mw each, which translates into 10,000 mw through imported route.

Therefore, the total comes out to be eight reactors of 700 mw based on indigenous technology and 10 reactors of 1,000 mw, each based on imported technology. This can add 15,600 mw to the NPCIL capacity, which is huge as far as nuclear power is concerned.

What is the current status of these ten reactors?

It is already 2008-end and we are hoping to start work on these reactors in four to six weeks. It takes a minimum of two years for starting work on a greenfield site. Simultaneously, we will carry forward our techno-commercial negotiation with vendor countries for the reactors they are offering to us. This entire process will take 24-30 months, then the plants can be started.

So we will not get the benefit of it in the current five-year programme, but the projects will be launched. And in the next five years, all these plants will be generating power at full capacity. Therefore, five years from now, NPCIL will have a capacity of 22,000 mw from the current 4120 mw.

What technology will you import?

As far as light water reactors are concerned, the design will definitely come from the vendor country; the fuel has to come from the vendor country; a good amount of equipment will have to come from the vendor country and the entire construction and supply of remaining equipments will be done by NPCIL. But subsequently, when we go from one pair of reactors to second pair or third pair of the same vendor, the localisation or indigenous content should keep on increasing. Our dream is to take this localisation up to 80%.

> "In the next five years, all ten plants will be generating power at full capacity. Therefore, five years from now, NPCIL will have a capacity of 22,000 mw from the current 4120 mw."

Once you get access to fuel and technology, will tariffs be reduced?

Our aim is that whatever reactor we source from foreign vendors, the cost of energy produced must be comparable to any thermal power plant in the area.

How much of the country's electricity needs will you be able to meet once you reach full potential?

We will be meeting 20-25% of the country's total electricity needs. Thermal stations will still be the major supplier of electricity, since our power requirements are growing at a much faster pace.

Are you also in talks with some investment banks or private equity firms for fund raising to support your plans?

All our plants are running at a 70:30 debt-equity ratio. The 30% equity comes from government and in the last three years, we did not even require government's support because of internal accruals. For the remaining 70%, we have been tapping the Indian market. We have borrowed Rs 78,000 crore so far at very competitive rates. Similarly, to fund our current programme, we will again tap the Indian market. It may also have some amount of external commercial borrowings, it will also have an element from some short-term funding agencies such as the Exim Bank and the Power Finance Corporation. We have had discussions with some foreign banks too to fund our debt requirements and they are quite eager to extend help.

What is the total funding requirement for the 10,000 mw plan?

Roughly between Rs 70,000 crore and Rs 80,000 crore. Actual cost will depend largely on the negotiations with the vendors.

When can we expect an IPO from NPCIL?

We are actually sitting on cash surplus of close to Rs 10,000 crore so we don't need to undertake an IPO immediately. But whenever we embark on our expansion programme, we will not hesitate to go for an IPO.

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