

## **Defend India's Interests: (2)**

### **Nuclear Energy and the Electricity Sector: False Promises**

The Prime Minister says the Indo-US nuclear deal will help strengthen India's energy security. Government agencies are busy bringing out information bulletins that after the deal India will have electricity in every home! What is the reality?

It is true that India has huge shortages of electricity. There are extensive power cuts all over the country, with the rural areas suffering the most. The farmers have to go to the fields at 3 AM in the morning, as power is available only then for running their pump sets to water their fields. Industry is facing severe power cuts and has to make do with costly captive diesel generators. This crisis of the power sector has not happened by itself; it is the result of a systematic attempt by successive Governments to starve the sector of public funds hoping to make high-cost private power more acceptable to the people. Instead the Government has gone in for privatisation of the power sector with higher prices of electricity. The net result has been the increasing bankruptcy of State Electricity Boards and converting what was a shortage of the early 90's to a full-blown crisis today.

The immediate need for adding to our existing capacity is obvious. The question here is whether nuclear energy is the only way to add to our existing installed capacity?

At present, we have an installed capacity of about 143,000 MW, with a mixture of coal, hydro, gas and nuclear power. One MW of power can supply electricity equal to the needs of about 8,000-10,000 households. Out of the 143,000 MW that we have installed, electricity based on nuclear power plants is only 4,120 MW, which is less than 3% of our total installed capacity. The major share is coal, which has about 55% of installed capacity followed by Hydro, which is about 25%. By all accounts, we are short of power and this is acting as a brake on our development and causing enormous hardships to the people.

India has large reserves of coal, which will last us for at least 100 years. India has also large untapped hydroelectric power sources and can also co-operate with Nepal to develop hydroelectric power. Recent discoveries of gas in the Kaveri Godavari Basin also will help in diversifying our energy sources. So using nuclear energy to generate electricity is only one of our options and not the only one. What option we choose and in what proportion depends on the money required for setting up these plants and the cost of electricity from these sources.

The Government claims that the recent India US Nuclear Deal will lead to a huge addition to our power generating capacity as it will add a large amount of

nuclear power from nuclear reactors imported from the US, France and Russia. What the Government is not telling us is what is the cost at which this power is going to be made available and how much money we will have to put in for nuclear power plants? Our calculations show that the cost of power from imported reactors will cost at least twice that from coal based power stations. Coal-based power stations can produce power at about *Rs. 2.50 per unit at the power plant end; nuclear energy will cost between Rs. 5.10 to Rs. 5.50 per unit.*

Not only will it cost twice as much, *it will cost three times as much money to build a plant with imported nuclear reactor, as it would to build a coal based power plant.* If we want to add about 100,000 MW, which the Ministry of Power is saying that we are required to add, then we will be able to build all the 100,000 MW with the same amount of money that we would require building about 30,000 MW of nuclear power with imported reactors.

For those who might remember the Enron case, there is a sense of history of repeating itself. At that time India was pushed to accept expensive private power only to help Enron. Once Enron started to produce power, its cost of Rs.5-7 per unit sank the Maharashtra Electricity Board. Now also, a nuclear energy route based on imported reactors is being foisted on the country in the name of energy security. If a 2,000 MW Enron plant sank the largest State Electricity Board in the country – the impact of pushing a high cost 40,000 MW of nuclear energy in the country may well be imagined.

We agree that India should invest some money in nuclear power plants. We have been under sanctions and have not received any technology for nuclear power plants from anywhere in the world. Our scientists and technologists have struggled very hard to develop every bit of our nuclear technology indigenously. It has taken us almost 20 years to do this, once nuclear isolation was imposed on India after the 1974 Pokhran I blast. Therefore, this technology needs to be nurtured and developed further. Even though nuclear power may not be economical today, it is possible that in the long-term, as coal and oil reserves run out, nuclear energy will become more and more important. But to argue that we should put in the major part of our available money in to nuclear energy right now, that too with imported reactors, seems to be very short sighted. It can only happen if we cut down our investments in either other forms of power such as coal and hydro, or if we decide to divert money from other areas such as roads, railways, education, health, etc.

Imported reactors have another problem. Unlike the Indian 3-phase program started under Homi Bhabha, which considered only indigenous fuel, imported reactors will require large imports of uranium. The 3-phase cycle envisages using Fast Breeder Reactors that can recycle the fuel and can produce 50 times more

energy from the same amount of uranium. India is world leader in Fast Breeder technology and is very near to commercialising it.

Interestingly enough, nuclear power is not the energy of choice for most advanced countries. The US itself has commissioned its last reactor in 1996 and has not licensed a new reactor now for more than 27 years.

The question is even if we divert money from other sectors to nuclear energy, how much will it be in our total energy scenario? Even by the most optimistic of Government projections, it will not be more than 9% of our total installed capacity in electricity generation.

The Government of India for the last 15 years has not been able to find money to invest in the power sector. In the 7<sup>th</sup> Plan, we had added about 21,000 MW. The last three plans have seen capacity additions of below 20,000 MW on the plea that the Government has no money. Suddenly, it appears we now have money for not only the power sector, but the most expensive route for electricity generation. It appears that this newfound love for nuclear energy has little to do with electricity but only a justification for an India US nuclear deal.

Electricity is however only a part of our energy usage. We also need oil and gas for running our transport sector and making fertilisers, plastics and petrochemicals. Requirements for oil and gas are growing. If we consider not electricity alone but also all other forms of primary energy, we will find that oil and gas are about 40% of our total energy needs as against nuclear being only 3-5%. Obviously, getting oil and gas is much more important for India's security than buying imported reactors from General Electric and Westinghouse. Yet, what is our Government's priority? Is it seeing that we have a more stable situation in West Asia or is it becoming an ally the US, the key warmonger, who is busy planning more wars and de-stabilising West Asia? Is it ensuring our future energy supplies from Iran and other countries in West and Central Asia or helping a moribund US nuclear industry to sell us billions of dollars of reactors, which nobody is buying in the US?