

Full support to third stage of nuclear programme: Manmohan
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By T.S. Subramanian

CHENNAI, OCT. 23. The Prime Minister, Manmohan Singh, said today that "the technology roadmap prepared" by the Department of Atomic Energy (DAE) for launching the third stage of the nuclear power programme by using thorium "will receive the Government's full support."

He was speaking after inaugurating the pour of the concrete for the construction of the 500 MWe Prototype Fast Breeder Reactor (PFBR) at Kalpakkam, Tamil Nadu.

This marks the beginning of the commercial phase of the fast breeder reactor (FBR) programme, which forms the second stage of the nuclear electricity programme.

The Indira Gandhi Centre for Atomic Research, Kalpakkam, has designed and developed the PFBR. Under the first stage, 12 Pressurised Heavy Water Reactors (PHWRs) are already generating electricity.

"Fast breeder reactor technology is of crucial importance in enhancing our nuclear power. By launching its commercial application, we are indeed entering a new and more advanced stage

of nuclear energy production, a technology mastered only by a select group of countries," Dr. Singh said.

The country had embarked on a major programme to generate 20,000 MWe of nuclear electricity by 2020. By 2008, the DAE would add 4,000 MWe which would include two reactors of 1,000 MWe each being built at Koodankulam, Tamil Nadu, with Russian assistance, he said.

The PFBR is being constructed on the shores of the Bay of Bengal at Kalpakkam, adjacent to the two PHWRs of the Madras Atomic Power Station. They are called breeder reactors because they breed more fuel than they consume. The PFBR would use the plutonium-uranium oxide as fuel, and liquid sodium as coolant.

'National imperative'

Energy security was a national imperative, and India must break the constraining limits of power shortages, which retarded development, Dr. Singh said. Energy security was needed in the context of the accelerating pace of India's economic growth. Nuclear energy was not only cost-effective but was a cleaner alternative to fossil fuels. "We are determined to utilise its full potential for the national good. It can also be a much needed cushion against fluctuations in oil prices."

The Prime Minister spent two hours and 45 minutes on the Kalpakkam campus. After inaugurating the PFBR construction, he saw the massive work under way there. He went

round an exhibition, which featured the PFBR's massive components such as the reactor vessel, steam generator tubes, and so on. He visited the MAPS, and the nearby Nuclear Desalination Demonstration Project, where a desalination plant, using the reverse osmosis method, is producing 18-lakh litres of potable water a day from sea water. Another plant, which will produce 45-lakh litres of potable water a day using the multi-stage flash method, will be operational in some months. The Prime Minister went to the Fast Breeder Test Reactor (FBTR), which is a forerunner to the present PFBR. He inaugurated a minar at the IGCAR to mark the commercial phase of the PFBR and the DAE's golden jubilee commemorations.

Dr. Singh said that under Jawaharlal Nehru's leadership, India was among the first group of countries to recognise the vast potential of unlocking the atom's power. He paid tributes to

Homi Bhabha, father of India's atomic energy programme, and Raja Ramanna, former Chairman, Atomic Energy Commission.

Anil Kakodkar, Chairman, AEC, said the DAE had come a long way in the last 50 years in achieving self-reliance in its atomic energy programme. "It is a success story in technological attainments and the translation of the atomic energy 's benefits to the people," he said. This had been done with world-class excellence. The Nuclear Power Corporation of India Limited (NPCIL) had given a dividend of Rs.500 crores to the Union Government this year, Dr. Kakodkar said. In May this year, about 1,000 young scientists and engineers, and their mentors of the DAE met for many days to chalk out a Collective Vision for the DAE's future.

New era

.K. Jain, Chairman and Managing Director, NPCIL, said the PFBR had opened a new era in harnessing the atomic energy. Mr. Jain, who is also the CMD of the Bharatiya Nabhikiya Vidyut Nigam Limited (BHAVINI), said the strengths of the NPCIL and the IGCAR had synergised in it. (The BHAVINI would build the PFBR and four more breeder reactors of 500 MWe capacity).

In operating its 12 Pressurised Heavy Water Reactors, the NPCIL had established itself as an international leader in their performance, economy of operation and tight construction schedules. Mr. Jain said, "We have matched and even bettered international performance" in them.

S. Banerjee, Director, Bhabha Atomic Research Centre, Trombay, said the PFBR put India on the threshold of the second phase of its atomic energy programme, which would provide energy security to it.

Baldev Raj, Director, IGCAR, said the work done by the IGCAR and other educational and research institutions had helped India to enter the commercial domain of its fast breeder reactor programme.