Global players keen on partnering NTPC for mega nuclear project

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NTPC, India's biggest power producer reliant on coal-fired generation, made further progress on its clean energy bid by securing preliminary offers from companies in the US, South Korea, France and Russia for a mega nuclear power project.

This comes as it began making enquiries with the World Bank, which had decided last month to re-enter financing of nuclear-fired power projects, sources told *Business Standard*.

Also, NTPC has secured most approvals, led by environment and forest nods, to proceed with construction of the country's newest nuclear-fired plant in Rajasthan. NTPC did not respond to queries till the time of going to press.

NTPC received interest from global nuclear technology majors from the United States, South Korea, France and Russia last month in response to an expression of interest (EoI) it floated late March, the sources said, without naming a company. Nuclear power in these four countries is led by Brookfield-controlled Westinghouse, state KEPCO, state EDF and Rosatom State Nuclear Energy respectively, according to industry data. This is to help install 15 gigawatts (Gw) of new nuclear capacity, around twice the current capacity, along with technology transfer for a slew of new power plants across India, according to the EoI.

NTPC's plans are in line with New Delhi's to increase nuclear fired generation capacity to 100 Gw by 2047 from around 8.8 Gw now. Separately, Rosatom is supplying technology for the 6 Gw Kudankulam plant in Tamil Nadu, the country's biggest nuclear facility, EDF is working on supplying units for the much-delayed NPCIL's Jaitapur project (Maharashtra) and Westinghouse for the Kovvada project in Andhra Pradesh.

What has further improved the viability of high capital cost nuclear power projects — 6-7 times that of solar and taking 7 times longer for commissioning — is the World Bank's decision to resume funding for nuclear power projects after decades.

Atomic push

- NTPC received interest from EDF, Rosatom, KEPCO, and Westinghouse last month
- Aims to increase nuclear-fired generation capacity to 100 Gw by 2047, from around 8 Gw at present
- The firm has partnered with Nuclear Power Corporation for indigenous pressurised heavy water reactors
- NTPC is in talks with Madhya Pradesh, Chhattisgarh, Tamil Nadu, and Andhra Pradesh, to build nuclear power plants

"This will enable us to access low-cost financing, cheaper than what it will take NTPC to finance its ongoing projects with local banks," a company official said.

The World Bank Group and the International Atomic Energy Agency (IAEA) agreed on June 26 to work together to support nuclear energy in developing countries.

"Jobs need electricity. Nuclear delivers baseload power, which is essential to building modern economies," said World Bank g roup President Ajay Banga.

He added, "That's why we're embracing nuclear energy as part of the solution — and re-embracing it as part of the mix the World Bank group can offer developing countries to achieve their ambitions."

"This landmark partnership opens the door for other multilateral development banks and private investors to consider nuclear as a viable tool for energy security and sustainable prosperity," said IAEA Director General Rafael Mariano Grossi.

Other low-cost funders like the Asian Development Bank are expected to join the World Bank in funding nuclear power projects, and India and NTPC will gain because of a long-standing relationship with these development institutions, the sources said.

The cost of building another 90 Gw of nuclear power capacity could be anywhere from $20-$40 billion depending on the technology adopted, according to calculations based on current costs, excluding inflation.

Receipt of bids kickstarts the process for NTPC to set up new nuclear projects on its own via NTPC Parmanu Urja Nigam Ltd, a wholly-owned subsidiary. It will develop, build, own, operate and manage nuclear plants. NTPC has initiated talks with the bidders to discuss technology issues, which will prepare the ground for licensing it in India first. Then it will move ahead with a formal tender — a process that can take a year, the sources said.

Rosatom has already licensed its technology in India because it is involved in the Kudankulam nuclear power project in Tamil Nadu, giving it a head start. EDF is in the process of doing so with the Atomic Energy Regulatory Board to stay competitive.

But the US and South Korean companies are waiting for Parliament to amend the law to address liability issues. This is something that the central government promised earlier this year, the sources said.

For Mahi Banswara in the deserts of Rajasthan, NTPC has partnered state-owned Nuclear Power Corporation to jointly develop four of the 10 domestically built "fleet mode" 700 Mw indigenous pressurised heavy water reactors (IPHWRs).

Last month, Mahi Banswara secured final environment and forest clearances after getting sitting clearances in March. It is now seeking permission for excavation at the site and floating tenders. In another eight months, it plans the first pour of concrete — a term used to begin construction, sources said.

Construction will take around six years for the first unit (FY32), with additional units commissioned every six months, the sources said.

Simultaneously, NTPC is in talks with multiple states to select sites for the projects.

It has signed initial agreements with Madhya Pradesh and Chhattisgarh for up to six IPHWRs at each site. It may use foreign technology at some of these sites, industry sources said.