

North India's first nuclear plant

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In news- North India's first Nuclear Plant is coming up in Haryana in the town of Gorakhpur, which is about 150 km north of the national capital of New Delhi.

About the plant-

- **Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) having two units of 700 MWe capacity** each of **Pressurised Heavy Water Reactor (PHWR)** indigenous design is under implementation near Gorakhpur village in Fatehabad district in Haryana.
- Till date, an amount of ₹4,906 Cr has been spent out of total allocated funds 20,594 Cr. (Total Financial progress is 23.8% as on date).
- Purchase orders for major long manufacturing cycle equipment/components like Primary Coolant Pumps, Calandria, Reactor Headers, Refuelling Machines Heads, Moderator and other D2O Heat Exchangers, etc. are already in place.
- End Shields and all Steam Generators for the first unit have been received at site.
- Construction of Water Duct from Tohana to GHAVP for meeting operational cooling water requirements has been taken up through Haryana Irrigation & Water Resources Department (HI&WRD) as deposit work and progressing well.



Major Nuclear reactors in India-

The Kudankulam Nuclear Power Plant (KKNPP)-

- It is the largest nuclear power station in India, situated in Kudankulam in the Tirunelveli district of the southern Indian state of Tamil Nadu.
- Construction on the plant began on 31 March 2002, but faced several delays due to opposition from local fishermen.
- KKNPP is scheduled to have six VVER-1000 reactors built in collaboration with Atomstroyexport, the Russian state company and Nuclear Power Corporation of India Limited (NPCIL), with an installed capacity of 6,000 MW of electricity.
- Russia is building the KKNPP under an Inter-Governmental Agreement of 1988 and follow-on agreements in 1998 and 2008.

Tarapur Nuclear Reactor-

- Located in Maharashtra, it is the oldest nuclear facility in India, having commenced commercial operations in 1969.
- It is currently the second most powerful in India, with two BHW of 160MW and two PHWR reactors of 540MW forming

a total of 1,400MW.

- The nuclear plant is the result of New Delhi's collaboration with the US.

Rawatbhata Atomic Power Plant-

- Located in Rajasthan, it has a total installed capacity of 1180MW. Formed of six PHWR reactors with two more reactors planned, the first reactor was commissioned back in December 1973.
- Earlier India collaborated with Canada for this plant.
- In 1974 after India conducted Smiling Buddha, its first nuclear weapons test Canada stopped their support of the project.

Kaiga Atomic Power Plant-

- Located in Karnataka, it is formed of four 220MW PHWR reactors making a total of 880MW.
- The plant has been in operation since March 2000 and is operated by the Nuclear Power Corporation of India Limited (NPCIL).

Kalpakkam Nuclear Power Plant-

- Located in Tamilnadu, it first began operating in 1984 and currently has two 235MW reactors, with two more reactors of 500MW and 600MW to be added at a later date.
- It has a prototype fast breeder reactor (PFBR) which does not produce highly radioactive nuclear waste and can produce 70% more energy.

Narora Nuclear Reactor-

- Located in Uttar Pradesh, it has two PHWR which offer a total capacity of 440MW.
- It is considered one of the safest nuclear plants in the country and won a Golden Peacock award for environment management in the year 2000.

Kakrapar Atomic Power Plant-

- The power plant in Gujarat, Western India has two PHWR reactors with a total installed capacity of 440MW.
- It is developed and operated by NPCIL.