Operational License for Indigenous 700 MWe PHWRs
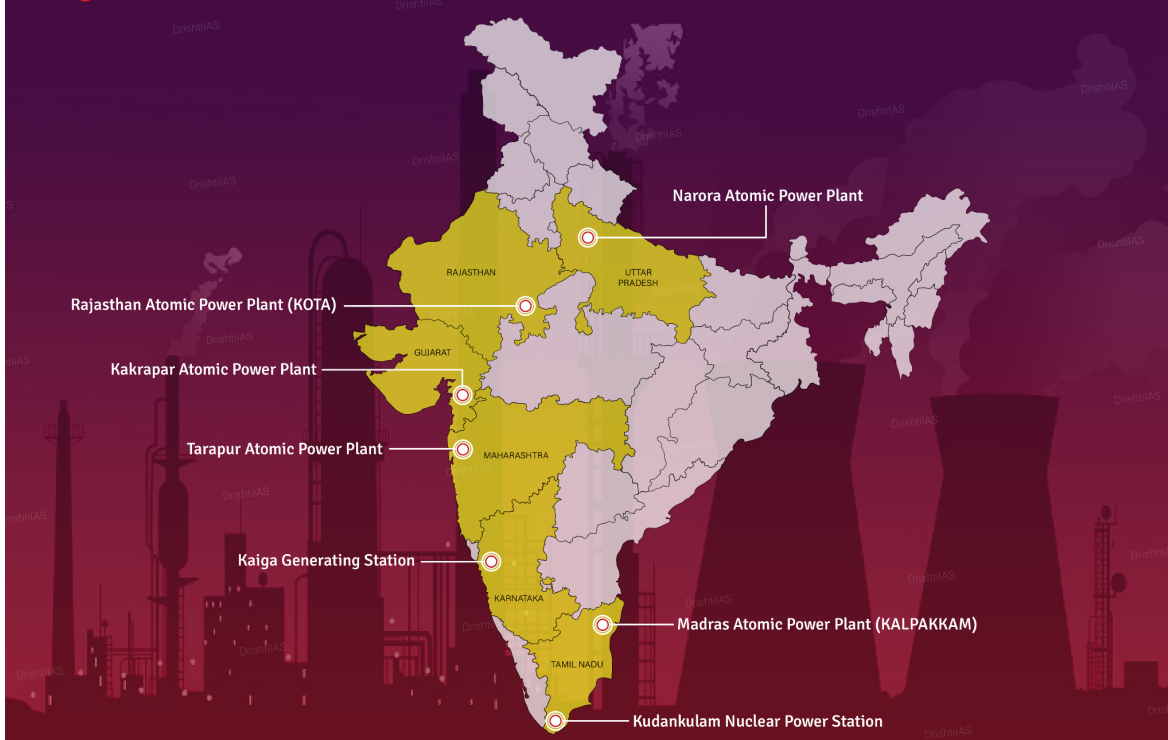
The **Atomic Energy Regulatory Board (AERB)** granted an **operation licence** for two **indigenously developed** (KAPS-3 and KAPS-4) **700 MWe (Megawatts electric) Pressurised Heavy Water Reactors (PHWRs)** at the **Kakrapar Atomic Power Station (KAPS)** in **Gujarat**.

- **AERB**, after **15 years** of rigorous multi-tiered safety reviews, granted a **5-year Licence for Operation** to the **Nuclear Power Corporation of India Limited (NPCIL).**
    - This marks a significant boost to NPCIL's plan of building **10 more PHWRs of 700 MWe**.
    - **NPCIL** owns and operates all **nuclear power plants** in India, except **PFBR** **variants** (owned by The Indira Gandhi Centre for Atomic Research).
- India currently operates **15 PHWRs of 220 MWe**, **2 PHWRs of 540 MWe**, and a **700 MWe reactor at Rawatbhata, Rajasthan**.
- **PHWRs** are a type of **nuclear reactor** that use **heavy water (deuterium oxide, D_2O)** as **both** a **coolant and moderator**, while **natural or slightly enriched uranium** serves as **fuel**.
- **AERB** is **India's national regulatory authority** responsible for ensuring the **safe use of nuclear energy and radiation technologies** in the country.
    - Established in **1983** under the **Atomic Energy Act,1962**, AERB functions as an **independent body** under the **Department of Atomic Energy (DAE)**.
- India's **nuclear power capacity** is currently **8.18 GW (2024)**, with targets set at **22.48 GW by 2031–32** and **100 GW by 2047.**

Operational Nuclear Power Plants in India

Narora Atomic Power Plant

Rajasthan Atomic Power Plant (KOTA)

Kakrapar Atomic Power Plant

Tarapur Atomic Power Plant

Kaiga Generating Station

Madras Atomic Power Plant (KALPAKKAM)

Kudankulam Nuclear Power Station

RAJASTHAN
UTTAR PRADESH
GUJARAT
MAHARASHTRA
KARNATAKA
TAMIL NADU

FACTS

- Presently, India has 22 nuclear power reactors operating in 6 states, with an installed capacity of 6780 MegaWatt electric (MWe).
- Activities concerning the establishment and utilization of nuclear facilities and use of radioactive sources are **carried out in India in accordance with the Atomic Energy Act, 1962**.
- Atomic Energy Regulatory Board (AERB) **regulates nuclear & radiation facilities and activities**.
- **Newest & Largest Nuclear Power Plant:** Kudankulam Power Plant, Tamil Nadu.
- **First & Oldest Nuclear Power Plant:** Tarapur Power Plant, Maharashtra.

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Read More: India's Nuclear Programme

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