

Low-temperature Thermal Desalination Technology

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Low Temperature Thermal Desalination Technology Latest News

Recently, the union Minister for Earth Sciences visited the Low Temperature Thermal Desalination (LTTD) plant at Kavaratti in Lakshadweep and reviewed the functioning of desalination facilities.

About Low Temperature Thermal Desalination Technology

- It is a process under which the **warm surface sea water is flash evaporated** at low pressure and the vapour is condensed with cold deep sea water.
- The LTTD technology **does not require any chemical pre and post-treatment of seawater** and thus the pollution problems are minimal and suitable for island territories.
- **Working Principle**
 - This technique works on the principle that water in the **ocean 1,000 or 2,000 feet below** is about 4° C to 8° C colder than surface water.
 - So, salty surface water is collected in a tank and **subject to high pressure** (via an external power source).

- This pressured water vapourises and this is trapped in tubes or a chamber.
- Cold water plumbed from the ocean depths is passed over these tubes and the vapour condenses into fresh water and the resulting salt diverted away.
- It **produces potable water** without the use of chemical additives or high-pressure membranes.
- **Significance:** Since no effluent treatment is required, it gives **less operational maintenance** problems compared to other desalination processes.
- The first LTTD plant in Lakshadweep was commissioned in Kavaratti in 2005.

Source: PIB

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