

Heavy Water Board Achieves Milestone in Oxygen-18 Enriched Water Production

Sets up India's first 100 kg per year Oxygen-18 Enriched Water Plant at Manuguru, Telangana

With this achievement, India joins the elite group of global O-18 producers

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In a significant milestone for the nation's scientific and industrial progress, the **Heavy Water Board (HWB)**, a constituent unit of the **Department of Atomic Energy (DAE), Government of India**, has successfully developed the capability to produce **Oxygen-18 (O-18) enriched water**.

A **100 kg per year Oxygen-18 Enriched Water production facility** has been set up at **Heavy Water Plant (HWP), Manuguru, Telangana**. This is **India's first facility of its kind**, marking an important step towards self-reliance in this critical material.

The foundation and inauguration ceremony of the facility was held at HWP, Manuguru, and was graced by **Dr. Ajit Kumar Mohanty**, Secretary, Department of Atomic Energy and Chairman, Atomic Energy Commission, along with **Shri S. Satyakumar**, Chairman and Chief Executive, Heavy Water Board, and other senior officials.



Addressing the gathering, Dr. Mohanty stated that the facility will not only meet **domestic medical requirements** but also has the potential to **cater to global demand** for Oxygen-18 enriched water. During the event, the product was formally handed over to **Shri Ramakant Sahu, General Manager (ESSA), BRIT**, for supply to end users.



Specialty of the Plant

The Manuguru facility produces **O-18 enriched water meeting international quality standards**. The product has been certified by end users and validated by an independent testing laboratory in the USA. After receiving approval from the **Radio Pharmaceutical Committee (RPC)**, the product was tested by the **Radiation Medicine Centre (RMC)** and found suitable for use in **medical cyclotrons**. The product has been accepted by RMC.



With the increasing number of **PET scan facilities** and rising global demand for Oxygen-18 enriched water, indigenous production by HWB will significantly support **India's medical sector** and reduce dependence on imports.

The **Heavy Water Board (HWB)** is primarily engaged in the production of heavy water for **Pressurised Heavy Water Reactors (PHWRs)**, supporting the first stage of the **Indian Nuclear Power Programme**. As part of its diversification and in support of DAE's healthcare initiatives, HWB has expanded into the production of Oxygen-18 enriched water.

O-18 enriched water is an essential input for **Positron Emission Tomography (PET)** imaging used in the detection and management of **cancer and other malignancies**. It is also used in **metabolic studies under extreme climatic conditions**.

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