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उत्कृष्ट वैज्ञानिक  
एवं  
अध्यक्ष, जन जागरूकता प्रभाग  
परमाणु उर्जा विभाग

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Ref: 13(1)/2023/PAD

October 16, 2023

**PRESS RELEASE NO. 8/2023**

**Oxygen-18 (O-18) Enriched Water produced by Heavy Water Board, DAE for Healthcare**

Heavy Water Board (HWB), is a constituent unit of Department of Atomic Energy (DAE), GOI, primarily engaged in production of Heavy Water required for Pressurised Heavy Water Reactors (PHWRs) thereby supporting first stage of Indian Nuclear Power Program (INPP). HWB has diversified its activities in production of Oxygen-18 (O-18) enriched water for supporting DAE's Healthcare vision. This O-18 enriched water is required for Positron Emission Tomography (PET) scanning for ascertaining the presence of cancer cells / malignancies. O-18 water is also used in metabolic studies under extreme climatic conditions.

In a significant milestone for scientific and industrial advancement, India has achieved a groundbreaking capability in the production of O-18 enriched water. Technology to produce Oxygen-18 enriched water has been developed by HWB and deployed on industrial scale at Heavy Water Plant-Manuguru (Telangana), which is India's First of a Kind (FOAK) plant. The quality of O-18 enriched water, produced by HWB, is at par with international standards, which is certified by end users and also by a testing laboratory in USA.

Presently, the demand of O-18 enriched water in India is completely met through imports and there are very few producers worldwide, who control the supply chain. It is India's pride to join such an elite group of O-18 producers.

With visible rise in number of PET scan facilities and consumption pattern of O-18 enriched water worldwide, HWB is planning to set-up O-18 enriched water production plant at one of its facilities, which will suffice domestic demand and also would look for opportunities for export.

(R. K. Vatsa)





**O-18 Water Production Facility**