



### HWB KEEN TO BOOST NON-NUCLEAR APPLICATIONS OF HEAVY WATER:

The Heavy Water Board (HWB), a flagship industrial unit under the Department of Atomic Energy (DAE), is the sole agency in the country for production and supply of heavy water, nuclear grade solvents and enriched elemental boron which are key input materials for the Indian Nuclear Power Programme (INPP). HWB has developed in-house capabilities to design, construct and operate Heavy Water Plants (HWPs), and India is the largest global producer of heavy water and is the only country using multiple technologies for its production.

According to **Dr. U. Kamachi Mudali**, Chairman & Chief Executive, Heavy Water Board (HWB), after meeting the demands of INPP, HWB is now engaged in the non-nuclear applications of heavy water for industrial and societal applications. These include production of deuterated Nuclear Magnetic Resonance (NMR) spectroscopy solvents, deuterium for thermo-stabilisation, biotracing etc, O18 water for PET scan, deuterium switch



DR. U. KAMACHI MUDALI, CHAIRMAN & CEO, HEAVY WATER BOARD, ADDRESSING THE GATHERING

drug synthesis, deuterium depleted water (DDW) for adjuvant therapy in oncology, deuterium in electronics & information technology, etc.

At present, all deuterium-labelled compounds, including deuterated solvents for NMR, are being imported into India from USA and Europe. Dr. Mudali informed that HWB is supporting Indian firms to ensure availability of deuterated compounds to domestic users at cost effective and affordable price. He expressed confidence that Indian expertise in this field will benefit the masses through affordable products developed by domestic pharmaceutical and other industries.

“This is expected to encourage a drive towards R&D in the field of new formulations based on deuterated compounds, NMR solvents, APIs and deuterated new chemical entities,” he added.

HWB can also supply heavy water to Indian companies for the development of deuterated compounds and solvents under collaborative agreement. HWB has now diversified into industrial production of other nuclear materials required for first and second stage of the INPP. These include: enriched elemental boron and B4C; nuclear grade sodium for fast breeder reactors; nuclear grade solvents used in front-end and back-end of nuclear fuel cycle; uranium recovery from phosphoric acid by solvent extraction; etc. HWB is also deploying spin off technologies and providing consultancy services in field of energy conservation, engineering and project management, informed Dr. Mudali.