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PRESS RELEASE: Graduation Function of the BARC Training School

The Department of Atomic Energy (DAE) has a multi-pronged mandate to deliver the benefits of nuclear science and technology to our society in terms of electricity generation, non-power nuclear applications and national security. Building indigenous capabilities in the nuclear field is essential for harnessing the power of the atom. This requires availability of highly motivated, knowledgeable and skilled manpower to carry out the various challenging tasks. A Training School was accordingly conceptualised by Dr. Homi Jahangir Bhabha and established way back in 1957. This scheme later acquired the name of BARC Training School at Trombay. More than 8300 trainee officers have successfully completed the Training School Course over the last 56 years. The Alumni of BARC Training School form the backbone of the human resource wing of the Indian Nuclear Programme.



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The BARC Training School has been successfully running a 1-Year flagship training programme since 1957. The programme was later christened as Orientation Course for Engineering Graduates and Science Post-Graduates (OCES). Under this continuously upgraded OCES programme, a total of about 150 courses comprising over 4000 lectures are delivered by more than 500 highly qualified faculty members taken from BARC, NPCIL, IGCAR, AERB and IIT. In the 56th OCES Batch recruited during 2012-13, a total of 119 young graduates from 12 science and engineering disciplines have successfully completed the programme.

Another programme called the DAE Graduate Fellowship Scheme (DGFS) was introduced in 2004-05 in collaboration with six IITs and some other elite institutes for inducting engineers at M. Tech. Level. Every year on the successful completion of M. Tech programme, the newly inducted DGFS Fellows are imparted a 4-month orientation course called OCDF (Orientation Course for DGFS Fellows) at the BARC Training School. During 2012-13, a total of seventeen DGFS Fellows took the training programme in the 9th OCDF Batch.

All the academic activities of BARC Training School are carried out by the Human Resource Development Division of BARC from its campus situated at Anushakti Nagar. A judicious mix of academics, practical training and soft skills training is imparted at the Training School and at the state of art laboratories of BARC.

The Graduation Function of the BARC Training School is an annual event for celebrating the successful completion of the training programme by the Graduating Officers and conferring the Homi Bhabha Prizes on the toppers of the various disciplines. The Hon'ble President of India, Shri. Pranab Mukherjee, has kindly consented to be the Chief Guest at the function this year, being held at 1530 hours on November 15, 2013 at the Central Complex Auditorium of BARC, Trombay. Shri K. Sankaranarayanan, Governor of Maharashtra, will preside over the function. Shri Prithviraj Chavan, Chief Minister of Maharashtra will grace the function. The President will award the Homi Bhabha prizes to the topper in each discipline. Dr. R.K. Sinha, Chairman, AEC will deliver the welcome address.

On the occasion of the visit of the Hon'ble President of India to BARC, the President will inaugurate (by remote control switch) five advanced

facilities that have been recently set up by BARC. These facilities represent development of new technology and contributions towards enhanced safety and environmental protection. Shri. Sekhar Basu, Director, BARC, will briefly describe the facilities and request the President to inaugurate them one by one. There will be video linkage with the respective facility and senior officers present at the remote site will participate in the event.

- The Advanced Heavy Water Reactor (AHWR), a technology demonstrator for thorium utilisation, is designed with the safety objective of 'no impact in public domain' achieved through incorporation of various passive safety systems. The integrated facility for Proving Advanced Reactor Thermal Hydraulics (PARTH), built jointly by BARC and NPCIL at Tarapur, will demonstrate the effectiveness of the various advanced safety systems (emergency core cooling; natural circulation) and performance of refuelling system incorporated in the design of the AHWR.
- The hot commissioning of Waste Immobilization Plant, Kalpakkam is yet another addition to DAE's waste management programme including vitrification of high level liquid waste. This large

comprehensive facility, co-located with reprocessing plant of BARC at Kalpakkam, facilitates the management of all types of radioactive wastes generated during reprocessing of spent fuel. Besides vitrification of high level liquid waste, this facility also addresses handling and management of intermediate level waste, separation of residual uranium from high level liquid waste, management of organic waste etc. Addition of this Facility is yet another milestone in strengthening India's capacity for the safe management of radioactive waste.

- The Actinide Separation Demonstration Facility, Tarapur, addresses the challenging technology of separating long-lived minor actinides from high level liquid waste generated during reprocessing. This cross-cutting technology referred as "Partitioning of High Level Liquid Waste" would not only lead to substantial reduction in the radio-toxicity of long lived high level wastes, but also reduce the volume requirements to nearly one tenth of its present level for its ultimate disposal in geological repositories. With the successful commissioning of this Facility, which is the first of its kind in the

world, India has taken a lead role towards reducing the long term concerns of high level liquid waste, an endeavor pursued globally.

- The Experimental Accelerator-Driven sub-critical System (Ex-ADS) set up at Trombay-BARC is a key first step in the ADS roadmap of India. The deuteron accelerator based external neutron supply to cause nuclear fission in a uranium matrix at low power will be a very useful experimental facility to verify and validate various physics parameters worked out by computations. India becomes one of the very few countries in the world to have such an experimental low power ADS facility.
- Radiation-aided chemical removal of the pollutants in flue gases arising from burning fossil fuel has been recently demonstrated, in collaboration with BHEL (Ranipet), at the Electron Beam Centre of BARC at Kharghar, Navi Mumbai. The acidic oxides of nitrogen and sulphur present in flue gases, when exposed to a beam of electrons, are converted (by radiolytic reactions) into non-polluting ammonium salts (nitrate and sulphate), which are also useful as

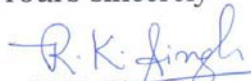
fertiliser. An indigenous DC electron accelerator (1 MeV) developed by BARC has been used for this purpose.

In addition to the above, the President will also dedicate to the Nation the most popular variety of BARC-developed mutant groundnut, called TAG 24 (Trombay - Akola - Groundnut). To date, BARC has developed 41 improved crop mutant varieties, especially of pulses and oil seeds, which have been released for commercial cultivation. TAG 24 is a groundnut variety having high yield, early maturity and drought tolerance and is being cultivated in ten States in India. TAG 24 accounted for over 15% of total groundnut seed production by the Seed Corporations in 2012-13. The variety has recorded pod yields as high as 7000 kg/hectare in the past, as against a national average of 1500 kg/hectare.

You are requested to give it a wide publicity in your esteemed News Paper/ Channel.

Thanking you and with warm regards.

Yours sincerely


—(R.K. Singh) 14.11.2013