GLOBAL CENTRE FOR NUCLEAR ENERGY PARTNERSHIP

School of Advanced Nuclear Energy System Studies

GCNEP-IAEA Course on
Natural Circulation Phenomena and Passive Safety Systems
in Advanced Water Cooled Reactors
29 September - 3 October 2014, Mumbai, India

The Global Centre for Nuclear Energy Partnership (GCNEP), India, is pursuing the expansion of clean and sustainable nuclear energy in a safe and secure manner, while at the same time reducing the risk of nuclear proliferation. The USA, Russian Federation, France and IAEA are partners of GCNEP. GCNEP is an initiative to establish leadership in the field of nuclear energy through partnership in research, scientific interactions and training by Indian and International experts from IAEA and interested countries on topical issues. GCNEP has five schools: one each devoted to Advanced Nuclear Energy Systems Studies, Nuclear Security Studies, Radiological Safety Studies, Nuclear Material Characterization Studies and Studies on Applications of Radioisotopes and Radiation Technologies. School of Advanced Nuclear Energy System Studies (SANESS) of GCNEP focuses on activities related to nuclear reactor technologies and their applications.

SANESS of GCNEP in cooperation with the International Atomic Energy Agency (IAEA) is organizing a "Course on Natural Circulation Phenomena and Passive Safety Systems in Advanced Water Cooled Reactors", to be held at Mumbai, India, from 29 September to 3 October 2014.

COURSE OBJECTIVES: Passive safety systems based on natural circulation are a key to the heat removal from core or containment in many evolutionary and innovative water-cooled reactor designs. The objectives of this course are to provide participants with instructions on:

- Natural circulation during reactor start-up and operation, methods of analyses and governing equations, passive system initiation and operation, flow stability, scaling laws for experiments;
- Phenomena that influence natural circulation (e.g. behaviour in large pools of liquid, effects of non-condensable gasses on condensation heat transfer; condensation on containment structures, behaviour of containment emergency systems, thermo-fluid dynamics and pressure drops in various configurations, steam-liquid interaction, gravity driven cooling, thermal stratification, behaviour of emergency heat exchangers and isolation condensers, stratification and mixing of boron);
- Experimental databases for these phenomena;
- Methodology for determining the reliability of passive systems.

PARTICIPATION:

- A science or engineering degree (e.g. in physics, mechanical, chemical or nuclear engineering) or equivalent qualification is necessary. A basic knowledge in thermo-hydraulics, fluid mechanics and heat transfer is required.
- Scientists, engineers and post-graduate students from all countries which are members of the IAEA may attend the course subject to approval by the course director.
- Logistics limit the number of participants to 40.
- The course will be conducted in English, participants should have an adequate working knowledge of English.
- Travel and subsistence expenses of the participants should be borne by their home institutions.
- Registration fees:

Foreign delegates	$400 US.	Indian delegates	₹ 10,000

HOW TO APPLY:

- *The application form and brochure may be downloaded from GCNEP website http://www.gcnep.gov.in/programs/programs.html*
- *Closing date for receipt of the application is **15 June 2014.***

DEADLINE FOR RECEIPT OF FILLED UP APPLICATION FORMS:
15 June 2014

COURSE DIRECTOR

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LOCAL ORGANIZERS

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