

## SANESS: AN OVERVIEW

The School of Advanced Nuclear Energy System Studies (SANESS) is aimed at design studies and analysis of advanced nuclear energy systems with features to intrinsically enhance safety, security, proliferation resistance and sustainability.

SANESS would also aim at design improvement of reactor systems and fuel cycle facilities by identifying vulnerabilities and gaps. Goals of SANESS would be realised through the state of art departments:

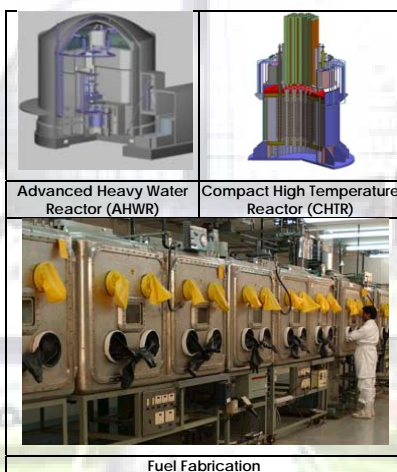
**Department of Reactor Systems & Applications** would focus on comparative studies and development of new reactor systems and would include electrical and non-electrical applications of nuclear energy.

**Department of Fuel Cycle Studies** would aim at assessment of frontend & back-end fuel cycles.

**Department of Thorium Fuel Technologies Studies** would facilitate extensive studies related to fuel fabrications and reprocessing of thorium fuel.

**Department of Accelerator Driven Systems (ADS)** would focus on studies related to accelerator driven sub-critical reactor systems.

**Department of Risk Studies** would facilitate studies related to safety hazard assessment, security threat potential assessment, and proliferation potential assessment.



Fuel Fabrication

**Department of Emergency Planning and Management Studies** would carry out studies related to responses subsequent to postulated accident scenario.

**Department of Sustainability Parameters Assessment** would focus on studies related to adoption of technologies that fulfill the criteria for sustainability.

**Virtual Reality Laboratories** would facilitate virtual walkthroughs of nuclear reactor systems and fuel cycle facilities.

**Global Databases and Analysis Unit** would collect and compile information on energy generation, its economics environmental effects, and future projections of growth.

SANESS is committed to facilitate studies on various facets of advanced nuclear systems, so as to enable their large scale deployment. The school would train national and international students in all areas of nuclear systems and their power and non power applications such as hydrogen production and desalination.

I V DULERA  
HEAD SANESS, GCNEP

### Interactive Distance Teaching

would provide interactive distance teaching through on-line classrooms in the key areas of nuclear power plants.

### PROGRAMS CONDUCTED

1. Joint GCNEP-IAEA international training course on "Natural Circulation Phenomena and Passive Safety Systems in Advanced WCRs", 29<sup>th</sup> Sep. to 3<sup>rd</sup> Oct., 2014, Mumbai.



Professors and invited guests during course inaugural

2. National Conference on "Power from Thorium", Dec. 22-24, 2014, Mumbai.

### PROGRAMS PLANNED

1. IAEA Technical meeting on "Economics of Nuclear Hydrogen Production", November, 16-18, 2015, Mumbai.
2. 2<sup>nd</sup> RCM meeting on IAEA CRP on "SCWRs Thermal Hydraulics", November, 23-27, 2015, Mumbai.
3. International Thorium Energy Conference (ThEC15), October 12-15, 2015, Mumbai.

## PHYSICAL PROGRESS

80% of piling works over for SNSS Building, 100% column-raising done for Guest House

By April end, 80% of piling works for SNSS Building have been completed. The pile cap works have also been initiated in parallel. At the residential site, 100% column raising has been done for the first floor of Block-A of Guest House. The slab concreting works for the first floor of the Guest House have progressed to around 5%.

On 20/04/2015, members of the AC (Advisory Council) and PIG (Program Implementation Group) of Global Centre for Nuclear Energy Partnership and other invitees visited GCNEP Site at village Kheri-Jasaur & Jasaur-Kheri, Bahadurgarh (Haryana). On special invitation, Shri Amandeep Singh Gill, JS(D&ISA) MEA, also visited the site.



Members of AC-GCNEP, PIG-GCNEP & Invitees at GCNEP Site

The committee took stock of the ongoing construction activities at the site. CE(C1) DCSEM Shri Pradeep Aggarwal informed the committee that the current construction works related to SNSS Building & Block-A of the Guest House are expected to be completed by next year as per the schedules. The committee deliberated on the availability of service buildings so that these buildings can be put to active operations once the construction is over.



Ongoing works for Block-A of Guest House

The visit was followed by a joint meeting of AC & PIG GCNEP at GCNEP Transit Office, Bahadurgarh. Shri Y S Mayya [Project Director GCNEP & AD (E&IG, BARC)] welcomed the committee members and other invitees. Dr. K L Ramakumar [Chairman AC-GCNEP & Director (RC&IG, BARC) & Head NCPW, DAE] chaired the joint proceedings. Chairman called for the measures to enhance the image of GCNEP. He called upon the GCNEP School Heads to come up with effective courses & programs to realize GCNEP's mandate.

Project Director expressed an immediate need to augment the current construction works with service buildings so that the under-construction buildings can be put to operational use as soon as they get ready.



Proceedings at AC-GCNEP & PIG-GCNEP joint meeting

Chairman briefed the committee on the status of MOUs signed with different countries & the ongoing discussions for future tie-ups. Proposals on future programs to be conducted under the aegis of GCNEP during the current year were discussed. Proposals on water requirements for the centre were also discussed at length in the meeting.

The newly designated Nodal Officers for GCNEP Schools were invited for the meeting. This was the 13<sup>th</sup> meeting of AC-GCNEP and 27<sup>th</sup> meeting of PIG-GCNEP.

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**Project Directorate:**

GCNEP, RCnD Building, BARC, Mumbai- 400085

+91-22-25595176

**Transit Office:**

GCNEP, 2nd Floor, BSNL T.E. Building, Bahadurgarh, Haryana -124507

+91-1276-220700

**Site Address:**

GCNEP, Village Kheri Jasaur, Bahadurgarh, Haryana -124505

+91-1276-211121