



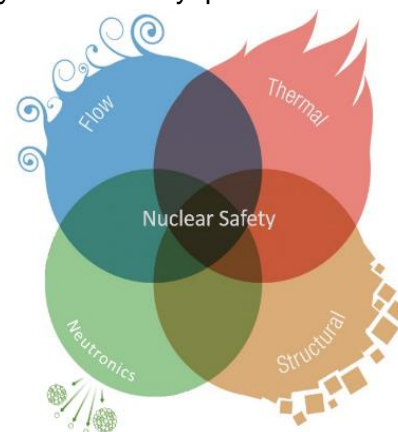
Azadi ka Amrit Mohotsav



Computer Codes: Status of Indigenous development

Safety analysis is a vital element of Nuclear Power Plants safety, which helps in demonstrating safety of nuclear installations over a broad range of plant states. Safety analysis is usually performed using numerical simulation tools (computer codes) which have evolved gradually in terms of accuracy and complexity over the past six decades.

Though a few of these computer codes are commercially available, many codes have been developed indigenously to analyze numerous plant states in variety of power reactors. With evolution of nuclear power programme in the country, safety analysis code development has also matured from preliminary models of initial days to current age complex multi physics tools. This journey has a unique trajectory in different DAE units, essentially centered around the respective licensing necessities.



As AERB is celebrating Azadi ka Amrit Mahotsav, it was felt that there is a need to take stock of the computer codes available in different DAE units, status of their indigenous development, validation matrix, quality assurance plan, code and data preservation practices, and future plans. Thus, a Theme Meeting titled “**Computer Codes: Status of Indigenous development**” was organized on 21 December 2021 to provide a discussion platform for experts from DAE units, AERB and elite academic institutes like IITs for channelizing directions for the future. The Theme Meeting was commenced with National Anthem followed by inaugural session. The technical sessions of TM involved the following presentation by experts from AERB, BARC, IGCAR, NPCIL and IIT-Jammu.

- Shri Mukesh Singhal, NPCIL gave the keynote speech covering the evolution of safety analysis in DAE.
- Dr. Santosh Pradhan from NSAD, AERB presented the Requirements of Safety analysis computer codes and AERB’s indigenous developments in codes for safety analysis.
- Dr. Deb Mukhopadhyay from BARC presented the Computer Codes for Safety Analysis in BARC.
- Shri Sameer Hajela from NPCIL presented the details of the Computer Codes for Safety Analysis of Indian PHWRs.
- Shri Y.K. Pandey from NPCIL presented the details of the Computer Codes for Safety Analysis of LWRs in India.
- Shri K. Devan from IGCAR presented the details of the Computer Codes used for Safety Analysis of FBRs.
- Prof. Kannan Iyer from IIT Jammu presented his views on the avenues for Academia in Computer Code development for Safety Analysis.
- Shri SS Bajaj, former Chairman AERB, summarized the achievements so far in development and applications of Indigenous codes for Safety Analysis and the directions for future.

Around 110 delegates participated physically in AERB auditoriums (NB-A and NB-B) and 80 delegates participated virtually through the TrueConf video conference platform.

Photo gallery of the event



Shri G. Nageswara Rao, Chairman AERB,
delivering Inaugural Address



Shri C S Varghese, Executive Director AERB,
making Introductory Remarks



Delegates attending Theme Meeting from
Auditorium at NB-A following COVID-19 protocol



Prof Kannan Iyer, IIT Jammu delivering talk on
"Avenues for Academia in Computer Code
Development for Safety Analysis"