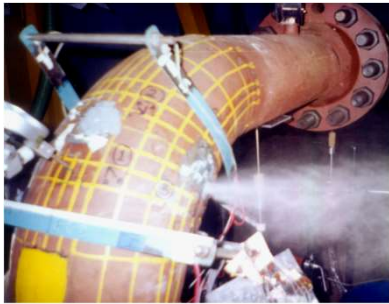
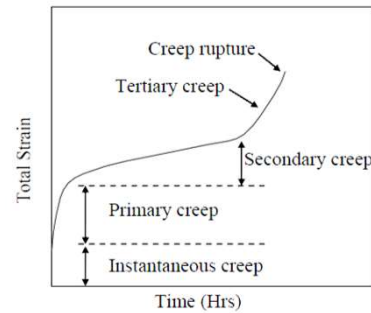


Structural Integrity Assessment of Mechanical Components: Concepts & Procedures

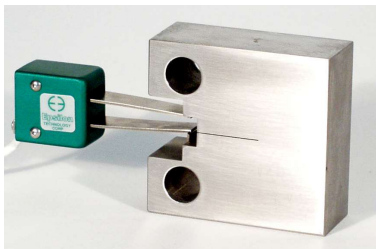
HBNI - INSTN Joint Course
(March 11 – 15, 2024)



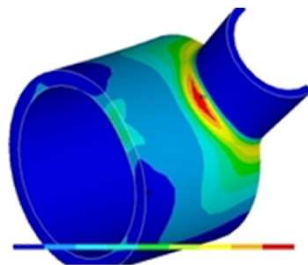
Failed elbow due to Ratcheting-Fatigue



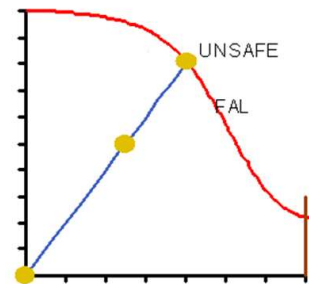
Creep deformation process



Assessment & Testing for Fracture and Fatigue Crack Growth



Local Stresses & Fatigue Assessment



R-6 method based integrity assessment



Course Overview

- Overview of Structural Integrity (Pressure Vessels and Piping)
- Fracture Mechanics based evaluations
- Plasticity, Plastic cycling, Ratcheting
- Fatigue life evaluation
- Evaluation of Crack growth due to Fatigue / SCC
- Assessment for Creep / Stress Rupture failures
- Assessment for Buckling failures
- Material Property Determination
- Overview of Non-destructive Examinations
- Defect Assessment using RCC-MR A-16 guide
- Leak-Before-Break / Break Preclusion Concepts

Who should attend?

Basic knowledge of solid mechanics and material testing failure mechanisms covered in standard text books is a prerequisite for the participants. The course covers advanced knowledge and is suitable for the following:

- Students pursuing Masters (2nd year)
- Ph.D. students
- Young Engineers/Researchers

- This course is jointly organised by **HBNI-DAE, Mumbai, India and INSTN-CEA, France.**
- The lectures will be delivered by international experts in the field, in hybrid (Offline+Online) mode, both from **INSTN-CEA, France and HBNI-DAE, India.**
- The course consists of **29 hours** of lectures, spread over **5 days** (each day 4 lectures of 1 hour and 30 minutes each).
- Examination will be held at end of the course.

Contact information:

Dr. Naveen Kumar, Homi Bhabha National Institute, Anushaktinagar, Mumbai PIN: 400094

Email: nkumar@hbni.ac.in

Phone: +91-22-25597629

Registration:

Registration fee for participants from CI/OCC of HBNI - NIL

Registration fee for a participant from other DAE Institution - Rs. 3,000/-

Registration fee for a participant from Government Institutions i.e. other than DAE institutions - Rs. 5,000/-

Registration fee for a participant from a Private Institution - Rs. 10,000/-

The registration fee would cover for course material for all participants and tea & lunch for participants attending physically at HBNI.

Last Date of Registration: 29th Feb, 2024



HBNI



BARC



MUMBAI



KKNPP 1&2

