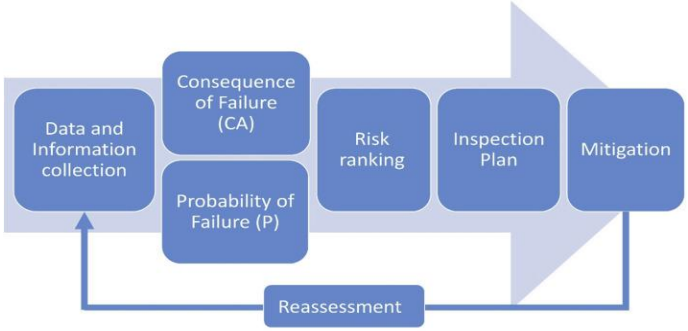
Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. TS, India

POWER & ENERGY DIVISION



Continuing Professional Development Programme on

Risk Based In-service Inspection of Power Plants and Process Industry

03 – 05 October, 2017

(An ISO 9001:2008 Certified, AICTE & CEA Recognized Institution)

Centre for Promotion of Professional Execellence

INTRODUCTION

Power plants and process industry constitute a very important element of industry that contributes a great deal to the national GDP. Mechanical integrity of Structures, Systems and Components (SSCs) in power plants and process industry is of extreme concern due to the associated risks and consequences of loss of production and release of hazardous chemicals into public domain, in case of breach of integrity in such SSCs.

Power plants and process industry chemical plants are not only designed using stringent standards but thorough care is also taken during various stages of construction to avoid any likely failure during the plant's design life period. In-service inspections at regular intervals play a vital role in order to monitor, assess the health of these plants. Risk Based Inspection (RBI) involves the planning of an inspection on the basis of the information obtained from a risk analysis of the equipment. The purpose of the risk analysis is to identify the potential degradation mechanisms and threats to the integrity of the equipment and to assess the consequences and risks of failure. Risk-evaluation involves the determination of a probability of failure (POF) combined with the consequence of failure (COF). The inspection plan can then target the high-risk equipment and be designed to detect potential degradation before fitness-for-service could be threatened. Examination methods include visual surveys and the raft of NDT techniques like RT, UT, ET, PT, VT, MT, Thermography and Metallography etc. designed to detect and size wall thinning and defects. The inspection action itself does not reduce the risk; however, it does reduce uncertainty and therefore allows more accurate quantification of the damage present in the component. In-service inspection not only brings out the present status of the plant equipment but also gives scope to assess the remaining life without failure.

This programme takes the participants through important features of risk analysis procedures of various equipment-failures, determining the consequence-severity, followed by deciding the risk based inspection strategy. Modes of material degradation & failure mechanisms, material selection criteria, applicable regulatory requirements, management system for mechanical integrity program, application of NDE methods, case studies are covered..

OBJECTIVE

- To sensitize the importance of mechanical integrity of structures, systems and components of power plants and process industry
- To give insight into the process of Risk Based Inspection and use of NDE Methods
- Assessment of present status of the vital equipment vis-à-vis the residual life

COURSE COVERAGE

- Mechanical integrity of equipment and design aspects of pressure vessels and code requirements
- Modes of material damage/failure mechanisms in power plants and process industry
- Importance of Asset integrity management
- Fundamentals of Risk Analysis, Probability of Failure and Consequences of Failure
- Risk based inspection methodology and planning of RBI
- In-service inspection by NDE techniques, UT, RT, ET, LT, PT, VT, Thermography

- Condition monitoring of Rotating Equipment
- Case studies.

METHODOLOGY
The programme will be conducted in an interactive environment providing greater scope for discussions. Emphasis will be on a highly participative style of learning. The faculty will act as provocateurs and resource persons and demonstrate application oriented studies, in a professional manner.

FACULTY
Apart from Core Internal Faculty, Consulting Firms, Government Organisations, Manufacturing, Academic and Research Institutions etc. will share the sessions.

TARGET PARTICIPANTS
O & M Engineers, Supervisors, Executives and Managers of Power Plants and manufacturing process industries in Govt/PSU/Private sector. Power Sector, Fertilizer Industry, Chlor-Alkali Industry, Paper and Pulp Industry, Petrochemical Industry, Cement companies, Pharmaceutical units, Heavy Water Plants, Nuclear Fuel Complex, Navy, Air Force, DRDO Labs, , NTPC, DGQA, GAIL, ISRO, BHEL, BDL, Midhani, L&T, ITC, PSUs, PCBs, etc.

PROGRAMME VENUE, DATES & TIMINGS
Engineering Staff College of India (ESCI) Campus, Old Bombay Road, Gachi Bowli, Hyderabad - 500032, Telangana, India.

DATES
03 – 05 October, 2017

TIMINGS
On the first day registration will commence at 0900 Hrs. On all other days the programme timings will be from 0945 to 1715 hrs with breaks in between for tea and lunch.

COURSE DIRECTOR
A Chandra Mohana Rao
Senior Faculty & Head I/c - Power & Energy Division, ESCI

COURSE ADVISOR
B Prahlad
Former Dy. Chief Executive, Nuclear Fuel Complex, DAE

COURSE FEE
Residential Fee is Rs.15,000/- per participant. Fee includes Course Material, Course Kit, and Twin-sharing / Single AC accommodation as per availability, Breakfast, Lunch, Dinner, Tea / Coffee and Snacks.

DISCOUNTS
Non-Residential Fee: 10% discount on course fee is allowed for non-residential participants.

Group Discount: 10% discount for three or more participants if sponsored by the same organization.

(All discounts are applicable only if fee is received at ESCI a week before the commencement of the programme).

GST @18% (as applicable) is to be paid extra over and above the training fee. ESCI's **Provisional ID No. 36AAATT3439Q1ZV. PAN Card No.** AAATT3439Q.

The course fee is to be paid in favour of **"IE (I) – ENGINEERING STAFF COLLEGE OF INDIA"** in the form of demand draft payable at Hyderabad.

Alternatively the payment may be made by **Electronic Fund Transfer (EFT) to ESCI – SB A/c No. 10007111201** with The SBI, PBB Rajbhavan Road Branch, Khairatabad, Hyderabad – 500 004 by **NEFT / RTGS / IFSC Code No: SBIN 0004159 – MICR No: 500002075.** While using EFT method of payment, please ensure to communicate us your company name, ESCI invoice reference and programme title.

Online registration is available on ESCI website. To register, manually please send your nominations (**10 days prior to date of commencement of the programme**) giving details of name, designation, contact address, email address, mobile number, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to:

Head, Power & Energy Division
Engineering Staff College of India
Gachi Bowli, Hyderabad – 500 032
Phone: 040 – 6630 4170 to 4177; 040-6630 4100, Fax: 040 – 23000336 / 66304103
Email:pe.esci@gmail.com / pe@escihyd.org; Website: www.escihyd.org

CERTIFICATE: A certificate of participation will be awarded to each participant on conclusion of the programme.

GENERAL INSTRUCTIONS

- ESCI encourages participants to present case studies from their respective organizations.
- For the convenience of the outstation participants ESCI will facilitate pickup and drop from Airport / Railway Station / Bus Stations, if travel plans are received at least 3 days in advance along with mobile number by fax or email. The charges shall be paid by the participants directly to the cab driver.
- ESCI provides complimentary accommodation to participants a day prior to the commencement and after the conclusion of the programme. (Check in at 12:00 hrs a day prior to the commencement & check out at 12:00 hrs a day after completion of the programme).
- Overstay charges of @ Rs.990/- per day / per head including hospitality (Bed Tea / Coffee to Dinner) will be charged.
- Well developed Information Centre and Internet facilities are available to the participants free of cost.