Course Description

Fitness - For - Service (FFS) assessments are quantitative engineering evaluations that are performed to demonstrate the structural integrity of an in-service component that may contain a flaw or damage. This training course is designed to give a detailed discussion of the subject of Fitness for Service concepts (FFS) with emphasis on the basic degradation mechanism and its consequences aspect. It present through understanding of how the disciplines of material science, stress analysis, NDT and inspection practices can be applied for assessing the present structural integrity of the component, and deciding its fitness for continued service as well as the project remaining life. This course covers both Level I and Level II assessments for Fitness for Service. In order to suit the course to participants with or without a FFS background, the course will be delivered such a way that most of technical terms and both code statements and examples will clarify concepts.

Course Objectives

To familiarize participants with the main concepts and technical terms of degradation mechanisms. To introduce participants to the concepts of FFS. To explain to participants the basic concepts of degradation and FFS. To provide participants with the basic technical and scientific knowledge for carrying out in depth inspection and engineering calculations. To train participants to choose between 3 Rs i.e. re-rate, Repair and Replace. To introduce participants to different ways of evaluations and decision making. At course completion.

Up on successful completion of this course, participants will be able to:

Appreciate the meanings of different technical terms and concepts used in API RP 579, Fitness for Service. Assessment of present integrity of equipments Be able to choose between Most Cost-effective approach towards making the 3 ‘R’ decisions i.e. Rerate, Repair and Replace.

Service specific assessments to present condition of the equipments Choose the right procedure of the of inspection and fitness evaluations for the specific equipments.

Carry out repairs alterations and re-ratings Assessment of future remaining life. Life extension methods for pressurized equipments.

Who Should Attend

Pressure Vessel/Piping/Tank design engineers, Process engineers, Plant Operating engineers and managers, Chemical/Mechanical engineers who are involved in integrity assessment of pressurized equipment’s. Also the Design engineers, Inspection persons and maintenance engineers involved in maintenance and trouble shooting of plant operations. It is equally valuable to the engineering consultants and contracting companies who provide support to Refining, Petrochemical and Chemical industries in the areas of plant up-gradations de-bottle necking, plant maintenance and repair.

Individual certification of API 510/ 570/ 653 will be an added advantage to the participants.
About the Instructor

Mr. K. Ravindran
(ASNT ID NO: 141151), an extremely well experienced NDT level III with certifications in 11 methods including UT, RT, MT, PT, VT, ET, IR, LT, AE, NR & VA. He has an overall experience of 25 years in inspection field of castings, forgings, pressure vessels (Designing, fabrication inspection) and pipe lines inspection.

He is familiar in Destructive and Non-destructive inspection technique, as applicable to Welds, castings, forgings etc as well as inspection of raw materials with relevant specifications. He is thoroughly familiar with all the relevant applicable Codes and Standards for Non-destructive Testing and well versed in the documentation procedures.

Mr. Ravindran also has the AWS CWI (AWS – CWI Cert No 05071771) certification. He is thoroughly proficient in all welding techniques, procedures and WPQ verification and certification for all kinds of welding like SAW, SMAW, FCAW, GTAW, PAW etc for all positions Including 5G & 6G also.

He has have ten years experience in conducting training courses and classes all most in all methods of NDT for LEVEL I & LEVEL II & LEVEL III, welding technology and casting and foundry technology. He is a post Graduate in physics, Post Graduate Diploma in Radiation Protection by Bombay University BARC (INDIA).

He also have the following API’s certifications such as; API 510 (Cert. No: 31918), API 653 (Cert. No: 32744), API 570 (Cert No: 33311), API 571 (Cert No: 20990), API 580 (Cert No: 35869), API 577 (Cert No: 35861), ISO 14001 - 2004 EMS Auditor (Cert. No. 06/03/863) and ISO 9000 - 2000 QMS Lead Auditor IRCA (Cert. No: 17120).