

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p> <b>Adresse : Cité 11 Décembre 1960 N° 120</b><br/> <b>2ème Etage Baba Hassen- ALGER</b><br/> <b>N RC : 16-01 - 20A1551304</b><br/> <b>NIF : 19517310150012900000</b><br/> <b>Telephone : 0782 83 79 88</b><br/> <b>Email: <a href="mailto:kitalgeria@kit-egy.com">kitalgeria@kit-egy.com</a></b><br/> <b>Site web : <a href="http://www.kit-egy.com">www.kit-egy.com</a></b> </p> | <p> <b>BATEN RABAH</b><br/> <b>Consultation,</b><br/> <b>Training,</b><br/> <b>Contracting &amp;</b><br/> <b>Evaluation Training</b><br/> <b>Pogramme</b> </p> |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Topics Covered

Introduction - lecture and discussion

Fitness-for-service Engineering Evaluation Procedure (General Roadmap for Parts 3 through 13 of the API/ASME Standard) - lecture and discussion

Assessment of Equipment for Brittle Fracture -lecture, discussion, and examples

Assessment of General Metal Loss - lecture, discussion, and examples

Assessment of Local Metal Loss - lecture, discussion, and examples

Assessment of Pitting Corrosion - lecture, discussion, and examples

Assessment of Hydrogen Blisters and Hydrogen Damage Associated with HIC and SOHIC – lecture and discussion

Assessment of Weld Misalignment and Shell Distortions – lecture and discussion

Level 1 Assessment of Crack-Like Flaws - lecture, discussion, and examples

In-class problem-solving: general metal loss, local metal loss, and Level 1 crack assessment

Introduction to Fracture Mechanics; Level 2 Assessment of Crack-Like Flaws – lecture, discussion, and examples

Assessment of Components Operating in the Creep Regime – lecture and discussion

Assessment of Fire Damage – lecture and discussion

Assessment of Dents, Gouges and Dent-Gouge Combinations – lecture and discussion

Assessment of Laminations – lecture and discussion

General Discussion and Course Wrap-up

Fitness-for-service assessment is a multi-disciplinary engineering approach that is used to determine if equipment is fit to continue operation for some desired future period. The equipment may contain flaws, have sustained damage, or have aged so that it cannot be evaluated by use of the original construction codes. API 579-1/ASME FFS-1 is a comprehensive consensus industry recommended practice that can be used to analyze, evaluate, and monitor equipment for continued operation. The main types of equipment covered by this standard are pressure vessels, piping, and tanks.

This course helps participants understand and apply the API/ASME fitness-for-service standard in their daily work. The material presented in the course shows how the disciplines of stress analysis, materials engineering, and nondestructive inspection interact and apply to fitness-for-service assessment. The assessment methods apply to pressure vessels, piping, and tanks that are inservice.

The course includes an extensive set of notes to supplement the contents of the recommended practice, and the recommended practice contains numerous example problems that illustrate fitness-for-service assessment.

Course Materials (included in purchase of course):

Downloadable version of the course presentation via ASME's Learning Platform

### You Will Learn To

Analyze, evaluate, and monitor pressure vessels, piping, and tanks for continued operation

Explain how to apply background information on fitness-for-service assessment, especially as it applies to the refining and chemical process industries, which are the primary focus of API 579

Identify the main parts of the API/ASME standard, as well as the annexes

Explain the practical application of the techniques incorporated in API 579-1/ASME FFS-1

#### Who Should Attend

This course is intended for engineers and engineering management engaged in the operation, design, analysis, and maintenance of plant facilities. Participants should have a BS degree or equivalent experience in engineering. A general knowledge of stress analysis, materials behavior, and fracture mechanics are helpful.

This ASME Virtual Classroom course is held live with an instructor on our online learning platform. Certificate of completion will be issued to registrants who successfully attend and complete the course.

ASME's Combo Course Packages are curated groupings of our most popular live courses across a common topic, use case, or industry