



2KG TRAINING

2KG TRAINING

## API 579-1 ASME FFS-1: FITNESS-FOR-SERVICE

**Presenter:** Alex Fereidooni

### ABOUT THE PRESENTER: ALEX FEREIDOONI



Dr. Alex Fereidooni has over 25 years experience as both an owner-user and a consultant providing engineering support to refineries and chemical and petrochemical plants, storage facilities worldwide. He is a specialist in Storage tanks, pressure vessel and piping design/analysis and performing Fitness-For-Service assessments using the rules of API/ASME standards and international codes.

He has experience as the lead mechanical and structural engineer at a major refinery, providing direction and guidance to others in evaluating and solving problems associated with fixed equipment.

Alex utilizes state of the art finite element analysis software to develop best fit maintenance program for pressure components and systems. He has strong academic and industries experienced in Static/Dynamic linear and non-linear Stress Analysis, Fatigue and Fracture mechanics. He has many publications and presentations in referees conferences and journals.

**Number of days:** 5

**Cost:** R19 058 excl VAT

**CPD Points:** 5

## WHO SHOULD ATTEND

This course is intended for technical professionals, supervisors and managers responsible for ensuring the integrity and cost-effective operation of in-service pressure equipment, storage tanks, piping and pipelines throughout their life cycle including design, operation, and maintenance in the petroleum, petrochemical, power, pulp and paper, mining, and other process industries. It is suitable for plant engineers and designers, corrosion and materials engineers, project engineers, plant reliability and integrity supervisors and engineers, inspection engineers and inspectors responsible for monitoring and assessing the condition of pressure equipment and piping systems.

Maintenance and operations supervisors and engineers responsible for shutdown work scope definition, planning and implementation; maintenance and repairs/alterations of pressure vessels, heat exchangers, storage tanks, piping and pipelines, project, and maintenance engineers who are responsible for the reliable design and operation will find the course of great benefit.

## API 579-1 ASME FFS-1 FITNESS-FOR-SERVICE *Cont.*

### COURSE OBJECTIVE

This course will provide training in the fitness-for-service evaluation methods of the API 579-1/ASME FFS-1 standard. The participant will learn to apply the rules of the API/ASME 579 standard "Fitness-for-Service" to recognize degradation mechanisms, evaluate the integrity and remaining life of pressure vessels, tanks, piping systems and pipelines, make cost effective run-or-repair decisions, and select the appropriate repair options.

This course explains the Fitness-for-Service concepts and technologies and provides training on the application of API 579-1/ASME FFS-1, a standard jointly published by the American Petroleum Institute (API) and the American Society for Mechanical Engineers (ASME) that covers a wide range of flaw types and damage mechanisms. It is intended to supplement and augment the requirements in API 510, API 570 and API 653 to ensure safety and reliability of plant equipment.

### PURPOSE

This course will provide training in the fitness-for-service evaluation methods of the API 579-1/ASME FFS-1 standard. Attendees will learn the principles and methodology for Level 1 and 2, and 3 assessment of damaged fixed equipment.

FFS assessments are multi-disciplinary quantitative engineering evaluations which are performed to demonstrate the structural integrity of an in-service equipment/component containing a flaw or damage, and compliance with applicable codes and regulatory requirements. FFS assessments can provide useful economic and safety benefits to end users and operators including ensuring plant integrity and safety of plant personnel and the public while older equipment continues to operate, reduce unnecessary repairs and avoid unplanned shutdowns and thus help optimize maintenance and operation of existing facilities to maintain the availability of older plants and enhance long term viability.

### DESCRIPTION

API Standard 579-1/ASME FFS-1: Fitness-for-service (FFS) methods for assessing the significance of flaws and damage have undergone significant development over the past two decades and in particular since the introduction of the first edition of API RP 579 in 2000, and have gained wide international acceptance.

The second edition of API 579 in June 2007 as API Standard 579-1/ASME FFS-1 Fitness-for-Service was the result of joint effort by API and ASME and represents a major leap in the FFS technology development and has become the de facto international standard for Fitness-For-Service (FFS) assessments in the refining and petrochemical industry, and is rapidly becoming the FFS standard of choice for other industries such as pulp and paper, fossil utility, mining, and other major manufacturing industries.

API/ASME 579 describes standardized fitness-for-service techniques for pressurized equipment used in industry and supplements the inspection and assessment techniques in API 510, API 570 and API 653

**COURSE HIGHLIGHTS**

1: Introduction

2: Assessment Procedure

3: Damage Mechanisms Overview

4: Brittle Fracture

5: Fatigue Analysis

6: Finite Element Analysis

7: General Metal Loss

8: Local Metal Loss

9: Pitting Corrosion

10: Hydrogen Blisters, Damage, HIC and SOHIC

11: Weld Misalignment and Shell Distortions

12: Crack-Like flaws

13: Creep

14: Fire Damage



## Registration Form

**Number of days:** 5

**Cost:** R19 058 excl VAT

**CPD Points:** 5

### How to register for the course:

1. Complete this registration form and fax it to Phindi Mbedzi: Tel: 011 325 0686 Fax: 011 325 0488 Email: [Phindi@2kg.co.za](mailto:Phindi@2kg.co.za)
2. Acknowledgement will be emailed to you.
3. Final confirmation and details will be faxed or emailed to you approximately 7 days before the commencement of the seminar.

### Cancellation Policy:

By signing and returning the registration form, the authorizing signatory on behalf of the stated company is subject to the following terms and conditions.

- All cancellations must be received in writing
- Any cancellations received less than 3 working days before the date of the event, the full fee will be payable and no refunds or credit notes will be given.
- If a registered delegate does not cancel and fails to attend the Workshop, this will be treated as a cancellation and no refund or credit note will be issued.

### Delegate information:

Title: \_\_\_\_\_ Surname: \_\_\_\_\_ Name: \_\_\_\_\_

Full Company name: \_\_\_\_\_ Job Title: \_\_\_\_\_

Postal Address (to which invoice must be sent): \_\_\_\_\_

Code: \_\_\_\_\_ VAT number: \_\_\_\_\_

Tel: ( ) \_\_\_\_\_ fax: ( ) \_\_\_\_\_

Cell: \_\_\_\_\_ Email: \_\_\_\_\_

### Contact/ Accounts information:

Title: \_\_\_\_\_ Surname: \_\_\_\_\_ Name: \_\_\_\_\_

Tel: ( ) \_\_\_\_\_ fax: ( ) \_\_\_\_\_

Cell: \_\_\_\_\_ Email: \_\_\_\_\_

**Dietary Requirements:** ☐ Normal ☐ Vegetarian ☐ Halaal

**Accommodation Requirements:** ☐ Yes ☐ No

Please tick the course that you would like to attend:

☐ 21-25 August 2017  
Durban

I have read and agreed to all the conditions of registration as stipulated in this brochure.

Signature

Date



**2KG TRAINING**

For more info and to register contact Phindi Mbedzi on tel: 011 325 0686 or cell: 071 125 6188 and email: [phindi@2kg.co.za](mailto:phindi@2kg.co.za) or visit [www.2kg.co.za](http://www.2kg.co.za)