

Fitness for Services Assessment

Run, alter, repair, monitor or replace equipment

Fitness for Service is defined as *the ability to demonstrate the structural integrity of an in-service component containing a flaw*. The rapidly becoming standard for conducting fitness-for-service assessments is API 579, *Fitness for Service*. API 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.

Fitness-for-service assessments provide useful economic and safety benefits to end users and operators including: (1) ensuring the safety of plant personnel and the public while older equipment continues to operate and (2) helping to optimize maintenance and operation of existing facilities to maintain the availability of older plants and enhance long term viability. The procedures can be used for evaluation and re-rating of pressure vessels designed and constructed to the ASME Boiler and Pressure Vessel Code; piping systems designed and constructed to the ASME B31.3 Piping Code and aboveground storage tanks designed and constructed to API 650 and API 620.



Typical scenarios requiring a fitness for service assessment include:

- Assessment of equipment for general metal loss
- Assessment of equipment for local metal loss
- Assessment of equipment for brittle fracture
- Assessment of equipment for pitting corrosion
- Assessment of equipment for blisters and laminations
- Assessment of equipment for crack-like flaws
- Assessment of fire damage

