مكونات وظيفة النفط والغاز المعدات في درجات حرارة مرتفعة عند شروط الزحف والإجهاد

Components of Oil and Gas Equipment Function at Elevated Temperatures Where Creep and Fatigue Conditions

Tripoli-Libya

Course Description

Major components of oil & gas refineries function at elevated temperatures where creep and fatigue conditions are both design and life-limiting considerations. In particular, remaining life prediction of such components that have been operating for several decades in oil and gas industries is a major concern from safety as well as future asset planning and maintenance perspectives. This course will review considerable progress that has occurred over the past two decades in the field of fracture mechanics for predicting crack growth under creep-fatigue conditions.

1. Limitations of linear elastic fracture mechanics
2. J-Integral
3. JIC and Stable Crack Growth
4. Creep Deformation and Fracture
5. C* -Integral and creep crack growth
6. Ct parameter and creep-fatigue
7. Applications for steam turbine casings and reheat pipes

Who Should Attend

This course is designed for those who work directly with chemicals or who supervise those who work with chemicals.

The Instructor

Dr. Saxena received his MS and PhD degrees from University of Cincinnati in 1972 and 1974, respectively in Materials Science and Metallurgical Engineering and his B.Tech degree from the Indian Institute of Technology, Kanpur in 1970 in Mechanical Engineering. He is currently affiliated with the University of Arkansas where he holds the position of Distinguished Professor and Dean Emeritus and the Billingsley Endowed Chair. He most recently served as the Vice-Chancellor of Galgotias University for a two year period where his assignment ended on March 31, 2014. He served as the Dean of Engineering, Distinguished Professor and the Irma F. and Raymond C. Giffels' Endowed Chair in Engineering at the University of Arkansas during July 2003 to June 2012. Dr. Saxena previously held the position of Regents' Professor and Chair of the School of Materials Science and Engineering at the Georgia Institute of Technology in Atlanta where he still holds the position of Adjunct Regents' Professor. Until 1985, he was a Fellow Scientist at the Westinghouse Research and Development Center in Pittsburgh, USA.

Dr. Saxena has made seminal research contributions in nonlinear fracture mechanics and its application to life prediction, reliability and risk assessment of structural components and in testing of structural steels. He has authored over 200 papers and reference books and two text books. He is a Fellow of ASTM, a Fellow of ASM International and a Fellow of International Congress on Fracture and a winner of numerous awards including the George Irwin Medal from ASTM (1992), the Outstanding Research Author Award from Georgia Tech (1993), ASTM Fracture Mechanics Medal (2009), and Wöhler Fatigue Medal from the European Structural Integrity Society (2010).