MC113

Techniques and Methods used in API 579-1/ASME FFS-1 for Advanced Fitness-For-Service (FFS) Assessments

- Overview of API 579-1/ASME FFS-1 through Examples
  - Review of the FFS Assessment Levels
  - How to Select an FFS Assessment Levels and “Best-Buys”
  - Examples of Volumetric Damage, Crack-Like Flaws, Creep Damage
  - Insights into API 579-1/ASME FFS-1, 2016 Edition

- Harmonization of API 579-1/ASME FFS-1 and ASME, Section VIII, Division 2
  - Life-Cycle Management Overview for Fixed Equipment
  - API 579-1/ASME FFS-1 Annex B1, B2, B3, and B4 and ASME Section VIII, Division 2
  - Fatigue Assessment Methods
  - Examples

- Background to Development of Volumetric Damage Assessment Methods
  - General Metal Loss
  - Local Thin Areas
  - Pitting

- Background to Development of Crack-like Flaw Assessment Methods
  - Stress Intensity Factor and Reference Stress Solutions
  - Failure Assessment Diagram
  - Fracture Toughness Estimation
  - Residual Stresses
  - Numerical Examples

- Remaining Life Estimation for High Temperature Components
  - MPC Project Omega – Why it Works
  - Fired Heater Tubes
  - Complex High Temperature Components
  - Numerical Examples