

## **PD382**

### **How to Predict Thermal-Hydraulic Loads on Pressure Vessels & Piping**

#### **Day One**

- Introduction
- Hydrostatic forces
- Thermal-hydraulic system types
- Loads occurring in spatially uniform system
- Forces from fluid discharge and jet impingement
- Pipe flows – *bulk or waterhammer?*

#### **Day Two**

- Forces from bulk flow of liquid in pipes
- Forces from waterhammer flow of liquids in pipes
- Forces from unsteady compressible flow in pipes
- Forces from multidimensional bulk fluid flows
- Fluids from multidimensional waterhammer

*Course emphasis is flexible, depending on major interest area of participants.*