HTRL

Course Fee: US\$450

Because vibration can cause critical operating problems in heat exchangers, it is important to analyze the potential for flow-induced vibration.

This workshop teaches you how to develop an input file, interpret results, and obtain accurate prediction of the vibration potential for installed units. Using *Xvib* you'll practice determining if a heat exchanger is susceptible to vibration damage.

Key Topics

- Analysis methods for fluidelastic instability and vortex shedding
- Velocity profile development
- Vibration susceptibility

Suggested Participants

Engineers responsible for the mechanical condition of shell-and-tube heat exchangers

HTRI Software

This course will make use of the following HTRI software: *Xchanger Suite[®]* components *Xist[®]* and *Xvib[®]*. All training materials are based on the current software version.

Course Credits: 6 hours (PDH/CEU)

Outline

- I. Fundamentals of Vibration Analysis
 - Introduction
 - Vortex shedding
 - Fluidelastic instability
- II. Getting Started with Xvib
 - Purpose of Xvib
 - Data input
 - Build a case in *Xvib* using *Xist* results

III. Xvib Calculations

- Calculation approach
- Compare Xist vibration analysis with Xvib
- Guidelines to implement the velocity profile
- Build an *Xvib* case

IV. Straight Tube Analysis

- Interpret *Xvib* reports
- Guidelines to assess vibration severity
- Analyze process condenser with parallel baffles
- V. U-Tube Analysis
 - Discuss U-tube configurations
 - Analyze vibration potential for U-tube exchangers
 - Analyze an H-shell with no baffles