

**Course Fee: US\$0**

Design decisions can have a costly impact on heat exchanger operation. Learn by reviewing several real cases in which unit designs had critical commercial consequences for operators/ owners. In some cases, the units did not work in service; in others, the designs were revamped before the units began operation.

Each case study is introduced as a problem; participants work individually or in groups to determine the cause and develop solutions. Prior to each case, the instructor reviews related HTRI methods.

**Key Topics may include:**

- Steam generator with tube failure
- Intercooler with vibration concern
- Condenser-subcooler with design flaws
- Recuperator with performance shortfall
- Economizer with convergence issues
- Brine chiller with insufficient duty
- Flooded condenser with inadequate subcooling
- Air-cooled condenser with noncondensables
- Once-through reboiler with instability
- Vapor-liquid separation
- Fouling with tube failure
- Gas cooler with inadequate performance

**Suggested Participants**

Engineers—from novice to expert—who want to ensure that design problems are identified before operation

**Course credits:** 6 hours (PDH/CEU)

**Outline**

- I. Case 1: Steam generator with tube failure
- II. Case 2: Intercooler with vibration concern
- III. Case 3: Condenser-subcooler with design flaws
- IV. Case 4: Recuperator with performance shortfall