

AICHE® INSTRUCTOR LED TRAINING

Course Number: CH173	Course Title: Emergency Relief Systems (ERS) Design using DIERS Technology
http://www.aiche.org/ccps/education/courses/ch173/emergency-relief-systems-ers-design-using-diers-technology	

Day 1

- 8:00 - 8:30:** Registration
- 8:30 - 10:00:** Introduction to ERS
- DIERS/DIERS Users Group
 - Case Histories
 - ERS Design Goals/Strategy
- 10:00 - 10:15:** Break
- 10:15 - 12:00:** Introduction to ERS (continued)
- Energy/Material Balances; Physical Property Treatment
 - Impact of Two-Phase Vessel Venting and ERS Flow
 - Codes, Terms, Devices and Rules
- 12:00 - 1:00:** Lunch
- 1:00 - 3:00:** Vessel Disengagement Dynamics
- Two-Phase Venting Conditions
 - Coupling Equation; Vapor / Liquid Disengagement
- Models
- 3:00 - 3:15:** Break
- 3:15 - 5:30:** Vessel Disengagement Dynamics (continued)
- Experimental Verification
 - Prediction of Two-Phase Flow Onset / Disengagement

Day 2

- 8:00 - 10:00:** Vent Flow Dynamics:
- Technology Base (Two Phase Flow Methods)
 - Experimental Verification
- 10:00 - 10:15:** Break
- 10:15 - 12:00:** Vent flow Dynamics (continued)
- Code Compliant Design
 - Calculation via "CCflow" programs on provided CDROM
 - Example Problems in provided texts
- 12:00 - 1:00:** Lunch

1:00 - 3:00: Simplified ERS Design

- Data Acquisition via Bench-Scale Testing

3:00 - 3:15: Break

3:15 - 5:30: Simplified ERS Design (continued)

- Simplified Special-Case Design Equations with Example Problems

Day 3

8:00 - 10:00: Computerized ERS Design Methods (Simulation)

- Advantages of Design by Simulation; Example Problem

10:00 - 10:15: Break

10:15 - 12:00: Computerized ERS Design Methods (continued)

- SuperChems for DIERS Capabilities and Demonstration

12:00 - 1:00: Lunch

1:00 - 3:00: ERS Effluent Handling

- Effluent Handling Strategies, Separators and Quench Pool Design

- Example Problems Using "CCflow" programs on provided