



Course Title: Advanced Emergency Relief Systems (ERS) Design Using DIERS Technology

Course ID:	Course Type:
CH173	Instructor-led (classroom) Course
http://www.aiche.org/ch173	

Course Schedule

Day One

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

Day Two

8:00 – 10:00	Vent Flow Dynamics • Technology Base (Two Phase Flow Methods) • Fundamental Flow Equations • Experimental Verification
10:00 – 10:15	Morning Break
10:15 – Noon	Vent Flow Dynamics (continued) • Code Compliant Design • Calculation via “CCflow” programs on provided CDROM • Example Problems in provided texts
Noon – 1:00	Lunch Break
1:00 – 3:00	Simplified Reactive Case ERS Design • Data Acquisition via Bench-Scale Testing
3:00 – 3:15	Afternoon Break
3:15 – 5:30	Simplified Reactive Case ERS Design (continued) • Experimental Reactive Case ERS Design • Simplified Reactive-Case Design Equations with Example Problems

Day Three

8:00 – 10:00	Computerized ERS Design Methods (Simulation) • Advantages of Design by digital simulation; Example Problem
10:00 – 10:15	Morning Break
10:15 – Noon	Computerized ERS Design Methods (continued) • SuperChems for DIERS Capabilities and Demonstration
Noon – 1:00	Lunch Break
1:00 – 3:00	ERS Effluent Handling • Effluent Handling Strategies, Separators and Quench Pool Designs • Example Effluent Handling Problems Using “CCflow” programs on provided CDROM