Winter 2016 Volume 23, Number 1

Process Safety News

CLARIFICATION OF NON-EQUILIBRIUM AND EQUILIBRIUM FLASHING FLOWS THROUGH TOP LOCATED SAFETY RELIEF VALVES (SRVS)

By: Hans K. Fauske, D.Sc., Regent Advisor, Fauske & Associates, LLC (FAI)

Non-Equilibrium Flashing Flow

f <u>all</u> liquid exist at the stagnation condition (no vapor), extensive data suggest that a simple length criterion of the order of 100 mm characterizes the residence time (~ of the order of 1 ms) requirement for approaching equilibrium flashing flows which are well described by the Equilibrium Rate Model (ERM) (Fauske, 1985)

$$G_{ERM} = \frac{\lambda}{v_{fg}} (TC)^{-1/2}$$
(1)

Where λ is the latent heat of evaporation, v_{fg} is the change in liquid-vapor specific volume, T is the temperature and C is the liquid specific heat, all evaluated at stagnation condition. In contrast, the maximum non-equilibrium mass flux as the length approaches zero is given by

$$G_{\text{max}} = (2P\rho)^{1/2}$$
 (2)

where P is the stagnation gauge pressure and ρ is the liquid stagnation density. Considering that

$$G_{_{MAY}} >> G_{_{FRM}}$$
 (3)

determines the relevant velocity and the length requirement of about 100 mm for all liquid stagnation condition (near saturated liquid and subcooling).

Equilibrium Flashing Flow

f liquid-vapor (quality > 0) exist at the stagnation condition, the length L (mm) required to satisfy a residence time of about 1 ms is given by

$$L(mm) = 1 (ms) \cdot G_{EPM} / \rho (mm/ms)$$
(4)

resulting in a length requirement much smaller than 100 mm. In other words 100 mm length requirement is only relevant to all liquid stagnation conditions.

Given the above observations, Eq. 1 can be used without modification to estimate flashing two-phase flows through top located SRVs for relief sizing purposes using the following equation (Fauske, 1999) if Eq. 4 is satisfied

$$\mathbf{G} = \left[\frac{1 - \mathbf{x}_{o}}{\mathbf{G}_{ERM}^{2}} + \frac{\mathbf{x}_{o}}{\mathbf{c}_{Dg}^{2}\mathbf{G}_{g}^{2}}\right]^{-1/2}$$
(5)

where x_{a} is the stagnation quality, CD_g is the valve manufacturer certified discharge coefficient for gas flow, and G_g is the gas flow (sonic or subsonic) through an ideal nozzle. An example of comparison with Eq. 5 and experimental data is illustrated below. In this case Eq. 4 suggests a length L of only about 10 mm to satisfy equilibrium flashing which is clearly satisfied by the SRV.



Given comparison with available data and ease of use, Eq. 5 is recommended as a "standard" for evaluating flashing flows through top located SRVs for sizing purposes.

REFERENCES

- Hans K. Fauske, 1985, "Flashing Flows Or: Some Practical Guidelines for Emergency Releases," Plant/Operations Progress, July, 1985.
- Hans K. Fauske, 1999, "Determine Two-Phase Flows During Releases," Chemical Engineering Progress, February, 1999.



Hans K. Fauske is an original founding partner of FAI and currently serves as Regent Advisor

Letter From the President



You have often seen me make mention of the strong safety culture balanced with a commitment to quality that is the foundation of our business at Fauske & Associates, LLC (FAI). It is so ingrained in our daily operations that our company motto is: "safety is the priority, quality is the standard". I believe in this culture and attribute our dedication in these areas in large part to the longevity and ongoing growth of the company. Our diligence in pursuing a safe workplace and quality product have enabled us to consistently provide the excellent customer service our clients and partners have come to expect for the past 35 years and finish 2015 with zero days missed due to incidents.

Additionally, in 2015, we further bolstered our commitments in these areas by adopting a human performance (HuP) way of thinking. HuP is a concept built on the understanding that even the best people make errors, whether from inattention, misinterpretation or inaccurate information. However, by encouraging appropriate behaviors and fostering a corporate culture with a system of checks and balances, the frequency and severity of such errors may be minimized.

These behaviors and checks and balances are reinforced by a set of tools that we incorporated in our 2015 HuP posters provided for your reference on page 4. We had fun implementing this campaign, enlisting our employees participation and insight. The response we have received from employees and customers has been positive and the reminders they provide have been invaluable.

We are grateful to all of our customers for the trust they place in us to meet their process safety needs. We recognize, however, that as a company dedicated to promoting safety for our clients we have a responsibility to set the example by cultivating an organization that promotes a proactive safety first attitude.

We hope that you enjoy looking at our 2015 HuP posters. If you would like a PDF of one of our posters to use in your facility, please email me at kfauske@fauske.com. I would love to hear how you incorporate some of these principals as part of your own safety program.

Have a safe winter and look for more details on our 2016 HuP campaign in coming issues of Process Safety News.

Happy 2016!

H. Kristian Fauske President



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Executive Director H. Kristian Fauske

Art Director Sara Peters

Contributors

AnnMarie Fauske Dr. Hans K. Fauske Kris Fauske Zach Hachmeister Lisa Karcz Amy Theis Sara Peters Carol Raines Mark Yukich

Statement of Purpose:

FAI's "Process Safety News" is intended to be a forum on recent advances in chemical process safety and FAI's current and related offerings in this area. It will address subscriber's concerns regarding issues and practices for relief system design as well as laboratory testing and techniques for process safety management.

Inquiries:

FAI's "Process Safety News" is published by Fauske & Associates, LLC 16W070 83rd Street, Burr Ridge, IL 60527 Toll Free: 877 FAUSKE1, +1-630-323-8750 Fax: +1-630-986-5481 info@fauske.com www.fauske.com



Human Performance Posters



Human Performance (HuP) is a different way of thinking. It is not a program; it is a series of behaviors executed in order to minimize the frequency and severity of events.

PROCESS SAFETY AND LEAN SUPPLY CHAIN MANAGEMENT

By: Zach Hachmeister, Director, Business & Services, Fauske & Associates, LLC

In today's global market place, most companies are forced to do more with less. As a result many companies have adopted lean management philosophies to remain competitive. When properly applied, these methods help companies identify wasteful practices and focus on continuous improvement of processes. Production is driven by the customer signaling the need to produce instead of problematic demand forecasting. This can create real cost savings for a company by minimizing inventories, increasing stock turnover, reducing manpower



requirements and improving process efficiency. However, lean management can leave companies vulnerable if risks are not accounted for. This is especially true when applying lean methods to supply chain management, as a lot depends on a supplier's ability to consistently deliver. To mitigate these risks, suppliers are often evaluated by looking at capacity, quality, performance and financials. These evaluations can help eliminate poor performers but they often fail to address a key element: a supplier's commitment to process safety. Lack of attention to process safety leaves suppliers more susceptible to fires, explosions or runaway reactions. These events can result in a process being down for months, causing significant delays in production schedules and the ability to meet customers' needs.

A good starting place when evaluating a supplier's commitment to process safety is to review Safety Data Sheets (SDS) of the materials they provide. A red flag should be raised if process safety information regarding the thermal stability, flammability or combustibility of a product is lacking. If an SDS indicates that a material is combustible or decomposes at elevated temperatures, ask if mitigation strategies such as emergency relief venting are employed by the supplier in their production process. Also, check if your suppliers perform process hazard assessments (PHA) at their facility; sometimes they are required to by law. Simply having data indicating a hazard exists does not necessarily mean that the hazard has been addressed. Communicate with your supplier and share information on materials you've identified as potentially hazardous. If you're receiving a material that you know is combustible, make sure your supplier is aware of this hazard. This can be a great learning experience for both parties and ultimately lead to a more reliable supply chain.

When we think of process safety, it's often in context of our own processes. From a business standpoint, it makes sense to be cognizant of how our suppliers approach process safety, as well. Suppliers providing materials that lack process safety data should be considered a high risk and trigger further evaluation. This may also indicate a need to find alternative supply sources to minimize the risk of downtime – especially for materials that are sole sourced or critical to your production schedule.



Zach Hachmeister is Director, Business & Services at Fauske & Associates, LLC

Upcoming Events

- AIChE Midwest Regional Conference
 "Five Steps to Managing Combustible Dust Hazards" Presentation by Amy Theis, FAI, Illinois Institute of Technology, Chicago, Illinois, March 3, 2016, 2:00 p.m.
- AIChE Global Congress on Process Safety Case Histories and Lessons Learned - GCPS Joint Session "Biomass Industry Explosion Case Study" Presentation by Amy Theis, FAI, Houston, Texas, April 10-14, 2016

- AIHce 2016

"Combustible Dust Hazards, Prevention and Mitigation Practices" Presentation by Timothy Cullina, FAI, Baltimore, Maryland, May 21, 2016 8:00 a.m. - 5:00 p.m.

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WHAT'S MISSING IN YOUR PROCESS SAFETY TOOLKIT?

By: Amy Theis, Director of Risk Management Services and AnnMarie Fauske, Customer Outreach and Digital Media Manager, Fauske & Associates, LLC (FAI)

Process safety focuses on preventing fires, explosions and accidental chemical releases in chemical process facilities or other facilities dealing with hazardous materials such as refineries, and oil and gas facilities. Traditionally, process safety has been implemented through OSHA's Process Safety Management (PSM) of potentially hazardous chemicals. The purpose of PSM is to prevent or minimize catastrophic loss of primary containment events such as the release of toxic, reactive, flammable, or explosive chemicals that could result in toxic exposure, fire or explosion hazards. An effective PSM program requires a systematic approach to evaluating the chemical process. Using this approach, the process design, process technology, process changes, operational and maintenance activities and procedures, non-routine activities and procedures, emergency preparedness plans and procedures, training programs and other elements that affect the process are all considered in the evaluation.



The key component to implementing an effective PSM program is appropriate hazard identification which utilizes the Process Safety Information (PSI) element of PSM. The process should be reviewed to identify hazards associated with the following:

- Chemicals
- Technology
- Equipment

Chemicals should be evaluated to identify:

- Toxicity information
- · Permissible exposure limits
- Physical data
- Flammability data
- Reactivity data
- Corrosivity data
- Thermal and Chemical Stability data
- Chemical Incompatibility data for Inadvertent Mixing
- Process Chemistry information
- Runaway Reaction characterization
- If applicable, Material Incompatibilites, unwanted reactions and potential decomposition reactions

Process technology should be evaluated to identify:

- Block flow diagram or simplified process flow diagram
- · Process chemistry for desired reaction
- Maximum intended inventories
- Safe upper and lower limits for operating parameters
- Qualitative evaluation of the consequences of deviations

Process equipment should be evaluated to identify:

- Piping & Instrumentation Diagrams (P&IDs)
- Design Codes & Standards Materials of Construction
- Electrical Classification
- Relief System Design & Design Basis Ventilation System Design
- Material & Energy balances for processes built after 5/26/92
- Safety Systems (interlocks, detection or suppression systems)





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Fauske & Associates, LLC Employees Appointed As Technical Leaders

The following Fauske & Associates, LLC (FAI) employees have been appointed Technical Leaders for Fauske & Associates, LLC and its parent company, Westinghouse, LLC.

Mar Mart appl

Martin Plys is appointed consulting engineer, Engineering Center of Excellence. Marty's outstanding contributions have focused on the development and application of nuclear facility safety and chemical hazards technologies.



Ashok Dastidar is appointed fellow engineer, Engineering Center of Excellence. Ashok's outstanding contributions have focused on the field of combustible dust hazards analysis and risk assessment.

Chan Paik is appointed fellow engineer, Engineering Center of Excellence. Chan's outstanding contributions have focused in the area of severe accident phenomena and severe accident code development.



Kevin Ramsden is appointed fellow engineer, Engineering Center of Excellence. Kevin's outstanding contributions have focused on the dynamic analysis of BWR and PWR transient response.

Through their work, they drive innovation across the company in their areas of expertise, support product marketing and provide technical advice to all levels of management. In addition, they deliver mentoring and teaching support to ensure a succession of strong technology expertise. Join us in congratulating Marty, Ashok, Chan and Kevin on their appointments.

Dr. Martin Plys Honored





Dr. Martin G. Plys has been elected to the rank of Fellow within the American Nuclear Society. He is being recognized for the contributions he has made to the advancement of nuclear science

and technology through the years. It is the Society's highest membership grade, to which a select group of his professional associates have been elected.

"Biggest Winner" Contest Winners



These Fauske & Associates, LLC (FAI) employees teamed together to win the Fall 2015 "Biggest Winner" team weight loss and body transformation challenge. Pictured from left to right: Alfredo Garcia, Jim Huddleston, Deborah Kuvakos, Jill Zenner and Justin Schmidt. Also pictured is Cindy Fernandez, Membership Director at Midtown Athletic Club who sponsored this exciting contest.

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This information is all used together to support the Process Hazards Analysis (PHA) effort and make the study as effective as possible to identify hazards associated with the process.

If there are gaps in the information needed in order to characterize material for flammability parameters, reactive chemistry, potential unwanted desired reactions, decomposition reactions or combustible dust characteristics, laboratories such as Fauske & Associates, LLC (FAI) have capabilities to meet those needs. A full service lab also has subject matter experts in flammability, combustible dust and reactive chemicals in order to be able to guide the discussion and/or facilitate the PHA study. For more information regarding Process Safety, Process Hazards Analysis and other reactive chemical safety topics, please contact Amy Theis at theis@fauske.com.



Amy Theis is Director, Risk Management Services at Fauske & Associates, LLC



AnnMarie Fauske is Customer Outreach & Digital Media Manager at Fauske & Associates, LLC







Congratulations to the Following Fauske & Associates, LLC (FAI) Employees With Milestone Work Anniversaries in 2015

> **35 Years** Dr. Hans K. Fauske Lisa Karcz

30 Years

Jim Farrington Jim Raines Dr. Chan Paik Laurie Bromberek

25 Years

Dr. Wison Luangdilok Bill Berger Kris Fauske

10 Years

Ken Kurko Nick Karancevic Dr. Quan Zhou

DUST SAMPLE COLLECTION KITS NOW AVAILABLE FOR PURCHASE

By: Mark Yukich, Sales & Business Development Fauske & Associates, LLC

To better assist our customers collecting dust samples for their testing needs, Fauske & Associates, LLC has created our Dust Sample Collection Kit that is now available for purchase.

The kit includes 4 plastic jars with sealable lids, a sharpie and labels to complete with pertinent information and apply to each bottle in the kit. The specially designed shipping box is intended to be reused to send the samples back to our lab for testing.

We typically need about 1-2 lbs. of material for the initial testing to be completed, but be sure to send along plenty of sample to allow for any additional testing that may be required. The the kit can be purchased by emailing dust@fauske.com.





Mark Yukich works with the FAI Sales team to support our combustible dust testing customers



Fauske & Associates, LLC Connected to the Community



FAUSKE & ASSOCIATES, LLC (FAI) SUPPORTS LOCAL KIWANIS



Willowbrook/Burr Ridge Kiwanis Club presented their prestigious 100 Year Medal to member and FAI President, Kris Fauske in recognition of his outstanding work, together with FAI employees, on 2015 fundraising efforts.



FAI employees continued their support of the Willowbrook/Burr Ridge Kiwanis, through ticket sales and sponsorship of their annual Pancake Breakfast with Santa, held on December 5, 2015. In addition to a hearty breakfast of pancakes and sausage, participants were treated to a variety of fun activities including a photo with Santa.

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ABORATORY ACCREDITATION ISO/IEC 17025

Spring 2016 Combustible Dust & Flammability Hazards Training Courses Thursday, April 21 - Friday, April 22, 2016

Fauske & Associates, LLC (FAI), presents two individual process safety courses, designed to identify hazards and control strategies that allow for explosion and fire hazard risk mitigation in the process industries. Each course may be attended individually.

Topics to be covered:

- Flammability and electrostatic hazards
- Prevention and protection practices for dust explosion hazards, including OSHA Combustible Dust National **Emphasis** Program

Who should attend?

FAI designed these introductory courses for personnel including - but not limited to - chemists, engineers, technicians and operational staff in R&D, process development, kilo, pilot and full-scale production in the chemical, petrochemical, food, cosmetic, detergent, plastic, paper, agrochemicals and pharmaceutical industries.

Technological/ Education Requirements:

There are no technological requirements for this introductory course. Grade 12 or higher education and 2-3 years professional experience are required.

CEUs: 0.6 per course

Day 1 – Thursday, April 21 8 am - 4 pm

Introduction to Understanding and Controlling Flammability Hazards

Description

This course will enable engineers and process safety personnel to identify hazards associated with combustible and flammable liquids and gases. A review of common flammable and electrostatic principles will be discussed using theory and case reviews.

Scheduled Agenda

- Introduction Basic Theory and Definitions
- Review of Significant Incidents
- Conditions for Fire and Explosion
- Small-Scale Tests
- Theoretical Calculations (Predictions)
- Ignition Factors, Including Electrostatics

Learning Outcomes

After completing this introductory course, participants will be able to describe and define the fundamental principles of flammability and electrostatic hazards in various industry settings, including:

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- Defining what constitutes flammability and electrostatic hazards
- Identifying and mitigating conditions that create such hazards
- Interpreting and reporting on such hazards

CEU Credit Eligibility: FAI is an an IACET (International Association for Continuing Education & Training) Authorized Provider. In order to be eligible for CEU credit (0.6 per course), attendees must be present for the duration of the course, score 85% or higher on the course assessment and complete the course evaluation.

Explosion Control

Daily Learning Assessment

Course Evaluation Instructions

Questions and Answers

Case Studies

Privacy: Fauske & Associates, LLC has a written policy to ensure privacy and confidentiality of participant training records and information. Training records will only be released with the expressed written permission of the participant. The participant record will be released to the participant or designated third party within 14 business days of the request.

Please direct instructor or course related questions to: Lisa Karcz: karcz@fauske.com, (630) 887-5232, Fax: (630) 986-5481

Prices: \$495.00 per day or \$990.00 for both days Hotel accommodations and travel expenses are the responsibility of the participant Fees include continental breakfast, lunch and afternoon refreshments for each day of attendance.

Location: Fauske & Associates, LLC 16W070 83rd Street Burr Ridge, IL 60527 1+877-FAUSKE1



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ABORATORY ACCREDITATION BUREAU NTED ISO/JEC 17025

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- Prevention and protection practices for dust explosion hazards, including OSHA Combustible Dust National **Emphasis** Program

Who should attend?

FAI designed these introductory courses for personnel including – but not limited to – chemists, engineers, technicians and operational staff in R&D, process development, kilo, pilot and full-scale production in the chemical, petrochemical, food, cosmetic, detergent, plastic, paper, agrochemicals and pharmaceutical industries.

Technological/ Education Requirements:

There are no technological requirements for this introductory course. Grade 12 or higher education and 2-3 years professional experience are required.

CEUs: 0.6 per course

Day 2 -Friday, April 22 8 am - 4 pm

Introduction to Dust Explosion Hazards, Prevention and Protection Practices

Description

This course will ensure all participants are aware of important issues associated with OSHA's Combustible Dust National Emphasis Program, NFPA 654 and other relevant standards and codes. A logical approach to characterizing a powder's hazardous dust properties will be presented, as well as a description of various techniques used to control and/or avoid dust explosions in a safe and compliant manner.

Scheduled Agenda

- Introduction
- Review of Recent Dust Explosions
- Fundamentals of Dust Explosions
- How to Comply With NFPA Codes and OSHA's Program on Combustible Dust Compliance
- Outcomes

- **Protection Options**
- Daily Learning Assessment
- Questions and Answers .
 - **Course Evaluation Instructions**
- After completing this introductory course, participants will be able to identify potential dust hazards and how to utilize appropriate test methods to determine levels of potential hazards; as well as apply appropriate mitigation techniques to prevent combustible dust hazards, including:

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- Identifying hazard levels
- Determining appropriate methodology for hazard characterization
- Ascertaining process application and hazard mitigation

CEU Credit Eligibility: FAI is an an IACET (International Association for Continuing Education & Training) Authorized Provider. In order to be eligible for CEU credit (0.6 per course), attendees must be present for the duration of the course, score 85% or higher on the course assessment and complete the course evaluation.

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SPRING 2016 COMBUSTIBLE DUST &	FLAMMABILITY HAZARDS TRAINING COURSES	
Introduction to Understanding and Controlli Introduction to Dust Explosion Hazards, Preven	ing Flammability Hazards – Thursday, April 21 8 am - 4 pm ntion and Protection Practices – Friday, April 22, 8 am - 4 pm	
REGISTRATION FORM		
Course Location : Fauske & Associates, LLC 16w070 83rd Street Burr Ridge, IL 60527 1+877-FAUSKE1	Trainer/Host: Fauske & Associates, LLC 16w070 83rd Street Burr Ridge, IL 60527 1+877-FAUSKE1	
First Name:	Last Name:	
Company Name:	Position:	
Address:		
City:	State: Zip:	
Phone:Cell:	Fax:	
Email:		
Price:Fee includes continental breakfast, lunch and afternoon refreshments for each day of attendance.\$495.00 per day orAll fees must be received prior to course commencement.\$990.00 for both daysWe accept Visa, Mastercard, American Express, purchase order or company check.		
Payment Method:VisaMastercard	AmEx Purchase Order Company Check	
Name on Account:		
Account Number:	Expiration Date:	
Signature authorizing Fauske & Associates, LLC, to charge credit card:		
Please select which day(s) you will be attending: Day 1: Thursday, April 21 - Introduction to Understanding and Controlling Flammability Hazards Day 2: Friday April 22 - Introduction to Dust Explosion Hazards, Prevention and Protection Practices 		
Hotel accommodations* and travel expenses are the responsibility of the participant *A list of area hotels will be provided upon receipt of completed registration form		
Cancellation Policy: Cancellations will be accepted up to April 11, 2016		
Contact Lisa Karcz: karcz@fauske.com, (630) 887-5232, Fax: (630) 986-5481		
WOLD LEADER IN NUCLEAR AND CHEMICAL PROCESS BAFETY		
www.fauske.com		

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Spring 2016 Relief Systems Design Course

Thursday, May 12 - Friday, May 13, 2016

Location/Host:

Fauske & Associates, LLC 16W070 83rd Street Burr Ridge, IL 60527 (630) 323-8750

Course Description

Unlike other emergency vent sizing courses, this curriculum highlights "hand" calculation methods; capable of giving safe – but not overly conservative – relief system designs, with an emphasis on reactive systems and the role of two-phase flow.

Benchmarking of these methods will be illustrated with incidents and available plant data. Utilization of methods and equations will be demonstrated through practical design examples; covering condensed phase (vapor, gassy and hybrid systems), as well as gas phase (gas and dust deflagrations) reactions.

Featured Speaker

Hans K. Fauske, D.Sc., Emeritus President and Regent Advisor of Fauske & Associates, LLC, served as the principal investigator and leader of the DIERS research project team. He is widely known for having developed a simple and cost-effective approach to relief system sizing, including reactive systems and two-phase flow considerations.



Methodology Overview

- DIERS
- API
- ASME
- NFPA

Vent Sizing Models

- Condensed Phase Reactions (Vapor, Gassy and Hybrid Systems)
- Vapor Phase Reactions (Gas and Dust Deflagrations)

Capacity Certification of Pressure Relief Valves in Two-Phase Flow

- Sizing PRV Nozzles
- Sizing Inlet Piping (3% Rule)
- Sizing Outlet Piping (10% Rule)

Runaway Reaction Classification

- Condensed Phase Reactions &
- Adiabatic Calorimetry
- Vapor Phase Reactions

Single and Two-Phase Flow Overview

- Vessel Behavior and Flow Regimes - Vessel Blowdown and Vent Line
- Vessel Blowdown and Vent Line Behavior
- Subcritical and Critical Two-Phase Flows

Special Topics and Examples

- Non-Reactive Fire Sizing Models for Foamy and Non-Foamy Systems
- Discharge Reaction Forces
- Effluent Control / Containment
- Considerations

Learning Outcomes

After completing this course, attendees will:

- Understand the up-to-date DIERS vent sizing methodologies and models, as well as the role of single and two-phase flow in venting behavior
- Perform vent size calculations using the correct models and methodologies
- Apply adiabatic calorimetry data
- Be able to use hands-on techniques and "rules of thumb" to ensure that realistic vessel and vent size conditions are specified

Price: \$1,500.00 USD

- Fees must be received prior to course commencement
- Hotel accommodations and travel expenses are the responsibility of the participant
- Fees include course notes, continental breakfast and lunch for each day of attendance



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Spring 2016 Relief Systems Design Course Thursday, May 12 - Friday, May 13, 2016 8 am - 4 pm		
Course Location/Host: Fauske & Associates, LLC 16W070 83rd Street Burr Ridge, IL 60527 (630) 323-8750		
First Name: Last Name:		
Company Name: Position:		
Address:		
City: State: Zip:		
Phone:Cell:Fax:		
Email:		
 Price: Fee includes course notes, continental breakfast and lunch for each day of attendance All fees must be received prior to course commencement We accept Visa, Mastercard, American Express, purchase order or company check 		
Payment Method: Visa Mastercard AmEx Purchase Order Company Check		
Name on Account:		
Account Number: Expiration Date:		
Signature authorizing Fauske & Associates, LLC, to charge credit card:		
Hotel accommodations* and travel expenses are the responsibility of the participant *A list of area hotels will be provided upon receipt of completed registration form Cancellation Policy: Cancellations will be accepted up to May 2, 2016 Contact Lisa Karcz: karcz@fauske.com, (630) 887-5232, Fax: (630) 986-5481 \hline		