



# Welcome From Chair

Dan Lambert, chair

Thursday, January 26, 2012

# Agenda

- 9:00 pm Welcome/VLS Highlights
- 9:05 pm Process Safety
- 9:10 pm Chief Information Officer Update
- 9:15 pm Speaker Introduction
- 9:16 pm Keynote Speaker
- 9:45 pm Questions and Answers
- 9:55 pm Closing Comments from Chair

# Welcome Members and Guests



Tervetuloa ברוך הבא Benvenuto  
ようこそ Добро пожаловать Dobrodošli  
Welcome Welkom Bem-vindo स्वागत  
Velkommen مرحبا Witamy  
Bienvenue Bienvenida 欢迎 Καλώς ορίσατε  
Välkommen Willkommen Velkomin



WHY DON'T YOU  
CHANGE THIS BOX  
TO SAY "VIRTUAL"?



Dilbert.com DilbertCartoonist@gmail.com

BECAUSE I DON'T WANT  
IT TO LOOK LIKE IT  
WAS WRITTEN BY AN  
IGNORANT BLOB IN  
AN UGLY WOOL SUIT.



1-24-12 © 2012 Scott Adams, Inc./Dist. by Universal Uclick

YOU PROBABLY  
SHOULDN'T PUT YOUR  
SUGGESTIONS IN THE  
FORM OF QUESTIONS.



I'M WAITING FOR  
PEOPLE TO WALK BY SO  
I CAN CRITICIZE YOU  
IN FRONT OF OTHERS.



Dilbert.com DilbertCartoonist@gmail.com

I WANT THE CRITICISM  
TO STING AS MUCH AS  
POSSIBLE SO YOU'LL BE  
INCENTED TO DO ALL  
THE RIGHT THINGS IN  
THE FUTURE.



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I GUESS  
IT CAN  
WAIT  
UNTIL THE  
STAFF  
MEETING.



THAT WAY I  
CAN ENJOY  
THE ANTIC-  
IPATION,  
TOO.



I'D LIKE TO BEGIN  
THE MEETING BY  
GIVING DILBERT  
SOME DESTRUCTIVE  
CRITICISM.



Dilbert.com DilbertCartoonist@gmail.com

EVERYTHING  
YOU DO IS DUMB.  
I DON'T KNOW WHY  
I HIRED YOU.



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I FEEL MUCH MORE  
MOTIVATED NOW.  
IF YOU FEEL A LITTLE  
BIT WORSE, WE CAME  
OUT AHEAD AS A TEAM.



# How to Communicate During Meeting?

- We have you muted so all can hear speaker
- Anytime during the meeting, you can ask a question or make a comment
  - “Raise your hand” (see next slide)
  - When we call on you, we’ll unmute you
- or
- Send a chat message with question or comment to Dan Lambert or Amanda Robben and we’ll read it for you


# Raise Hand

Cisco WebEx Meeting Center - WebEx Test

File Edit Share View Audio Participant Meeting Help

Quick Start Meeting Info DryRun New Whiteboard

12: Welcome From ( )



## Welcome From Chair

Dan Lambert, chair  
Thursday, January 27, 2011

Participants

Dan Lambert

Dan Lambert (me)  
Dan Lambert (Host)

Make Presenter Raise Hand Audio

Chat

Send to: Everyone

Select a participant in the Send to menu first, type chat message, and send...

Send

Full Screen 87% View




# Chat

Cisco WebEx Meeting Center - WebEx Test

File Edit Share View Audio Participant Meeting Help

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Full Screen 87% View

# VLS Leadership Team

## Chair

Dan Lambert  
virtualchair@aiiche.org



## Vice Chair (Chair Elect)

Amanda Robben  
virtualvicechair@aiiche.org



## Secretary

### Newsletter Editor

Laura Gimpelson  
virtualexecutive@aiiche.org



## Treasurer

Neil Yeoman  
virtualtreasurer@aiiche.org



## Director

Bill Doumas



## Director

Dave Eckhardt



## Director

George Andrew Huttick



## Director

### Young Professional Chair

Noah Meeks  
virtualypchair@aiiche.org



## Safety Chair

Kathy Harris  
kaharrismt@msn.com



## Social Networking Chair

Gwen Barnhardt





# Help Wanted

- We need leadership in a number of areas:
  - **Newsletter Editor**
  - **Information Technology (IT) Chair**
  - **Academic, Women, Minority, Societal Impact, PE Chair**
- Contact Dan Lambert [virtualchair@aiche.org](mailto:virtualchair@aiche.org) or Amanda Robben, [virtualvicechair@aiche.org](mailto:virtualvicechair@aiche.org)
- Sign up on web  
<http://virtual.aiche.org/webform/virtual-local-section-volunteer-form>

# **This month Process Safety Topic – Codes and Standards Part 1 – Design**

- Codes and Standards that practicing Chemical Engineers should be aware of and/or have working knowledge of.
  - Underlying knowledge of codes and standards is assumed.
- Part 1 - Design standards
- Part 2 - ITPM (Inspection, Testing and Preventative Maintenance)
- Part 3 - Standards and recommended practices for specialized operations effecting process safety (flammable liquids, dust, pipelines)



# Process Safety Codes and Standards

Kathy Harris  
VLS Process Safety Chair



# Codes and Standards – What is the Difference

- **CODE** is a model or set of rules that knowledgeable people recommend for others to follow. It is not a law but can be adopted into law.
- **STANDARD** is a more detailed elaboration providing the nuts and bolts or meeting a code.
- In simple terms A CODE tells you what to do and a STANDARD tells you how to do it.
- CODE provides regulatory documentation (i.e. can be fined if in violation of a code). Codes can adopt standards therefore requiring strict adherence to the specifics in that standard.

# Typical Sources of Applicable Codes & Standards for Chemical/Refining Industry

- ASME- American Society of Mechanical Engineers
- ANSI – American National Standards Institute
- API – American Petroleum Institute
- NFPA – National Fire Protection Agency
- ISA – Instrument Society of America
- IEEE – Institute of Electrical & Electronics Engineers
- NBIC – National Board Inspection Code
- UL – Underwriters Laboratory

# Design Consensus Standards – Tanks and Piping

- ASME (ANSI) B31 – Standards of Pressure Piping
  - Process Piping ASME B31.3 requirements for materials and components, design, fabrication, assembly, erection, examination, inspection, and testing of piping.
- ANSI B16.5 – Valves and Flanges
- ASME Boiler and Pressure Vessel Code
  - Section VIII, Division 1 Pressure Vessel Requirements - Provides requirements applicable to the design, fabrication, inspection, testing, and certification of pressure vessels operating at either internal or external pressures exceeding 15 psig.
    - Also applies to Nuclear Power Plant Components
  - Section IX – Qualification Standard for Welding and Brazing - Provides qualification of welding and brazing procedures as required for component manufacture.
- API 650/620– Atmospheric Storage Tanks provides material, design, fabrication, erection, and testing for vertical, cylindrical, aboveground, closed- and open-top, welded CS or SS storage tanks in various sizes and capacities for internal pressures approximating atmospheric pressure
- NFPA 30 - Flammable and Combustible Liquids Code for Tanks Containing Flammable Liquids



# Design Consensus Standards – Relief Systems, Pumps, Control Systems

## ■ API

- **520– Pressure Relieving Devices** - Sizing, Selection, and Installation of Pressure-Relieving Devices used in refineries and related industries for equipment that has a MAWP > 15 psig
- **521 - Pressure Relieving Systems** requirements and guidelines for examining the principal causes of overpressure; determining individual relieving rates; and selecting and designing disposal systems, including such component parts as piping, vessels, flares, and vent stacks.
- **660/661 Heat Exchangers** mechanical design, material selection, fabrication, inspection, testing and preparation for shipment of shell-and-tube/air cooled heat exchangers for the petroleum and natural gas industries.
- **610 – Centrifugal Pumps for General Refinery Service**
- **619, 674, 675, 678 –Various designs of positive displacement pumps**
- **617/618 Compressors for General Refinery Service**

- **ISA S84.00.01 Application of Safety Instrumented Systems for Process Industry** 84.00.01-2004 Parts 1-3 "Functional Safety: Safety Instrumented Systems for the Process Industry Sector." The standards resulted from the adoption and modification of the three-part international standard IEC 61511

# Design Consensus Standards – cont.

- ASME (ANSI) B 19.3 Safety Standards for Compressors for Process Industries
- ANSI B73.1 – Specifications for Horizontal End Suction Centrifugal Pumps
- ANSI B78.1 – Tubular Heat Exchangers in Chemical Process Service
- ASME B1634 – Control Valves
- ANSI/UL-467 – Safety Standard for Grounding and Bonding Equipment
- API RP 500A/NFPA70 (NEC) – Classification of Areas for Electrical Installation
- API RP 752/753 – Facility Siting for Permanent and Portable Buildings

# Chemical Engineer's Role

- Be familiar with applicable codes and standards for your facility/assigned function.
- Receive training in applicable codes and standards that are a core function of your job (i.e. relief valve sizing and system design for process engineers)
- Verify you or your site has reliable access and notification to revisions of applicable codes and standards.
- Join organizations/sit on committees that review and revise codes and standards for which you are a Subject Matter Expert (SME).



# References

- [AIChE.org/Publications/elibrary](http://AIChE.org/Publications/elibrary)
- [API.org/Publications](http://API.org/Publications)
- [ASME.org/kb/standards](http://ASME.org/kb/standards)
- [NFPA.org/catalog](http://NFPA.org/catalog)
- [ul.com/global/eng/pages/solutions/standards/accessstandards/catalogofstandards/](http://ul.com/global/eng/pages/solutions/standards/accessstandards/catalogofstandards/)



# Chief Information Officer Update

Amanda Robben, VLS Vice Chair  
Thursday, January 26, 201

# Upcoming Webinars

<http://apps.aiche.org/chemeondemand/LiveWebinars.aspx>

- Cheers! The Chemistry of Wine
  - Presented by Dr. Ariel Fenster
  - Wednesday, February 1, 2012
- Two-Phase Gas/Liquid Pipe Flow and Relief Sizing
  - Professor Ron Darby
  - Wednesday, February 15, 2012
- Explosion Protection with In-Line Flame Arresters
  - Presented by Dr. Michael Davies
  - Wednesday, February 29, 2012
- Carbon Nanomaterials for Energy-Related Applications
  - Presented by Dr. Yury Gogotsi
  - Wednesday, March 7, 2012



# UPCOMING CONFERENCES

## Carbon Management Technology Conference

- February 7 - 9, 2012
- Orlando, FL

## Sustainability in Biopharma

- February 19-22, 2012
- San Juan, Puerto Rico

## AIChE Spring Meeting/Global Congress on Process Safety

- April 1 - 5, 2012
- Houston, TX

# Local Section Leadership Workshop

- Target: For Local Section Leaders
- When: Sat March 31 and Sun April 1
- Practical training for present and future local section leaders

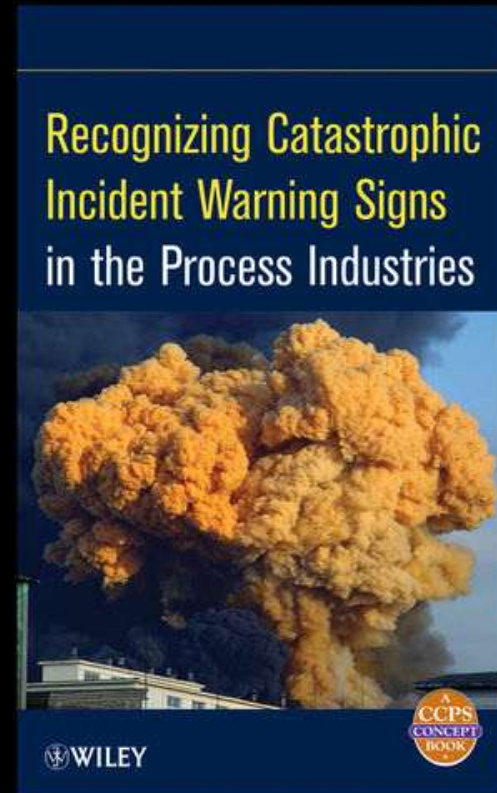
# New in VLS

## 4<sup>th</sup> Thursday 9:00 pm EDT

- AIChE's member benefits support ChEs in their job search
  - Keynote: Camille Belcuore, AIChE Member Benefits Manager
  - Thursday, February 23, 2012 09:00 pm - 10:00 pm EST
- Lessons Learned from Fukushima Disaster
  - Keynote: Candido Pereira, Argonne National Labs, NED Chair
  - Thursday, March 22, 2012 09:00 pm - 10:00 pm EST
- VLS Student Paper Contest
  - Keynote: Top 3 Winners of Student Paper Contest
  - Thursday, April 26, 2012 09:00 pm - 10:00 pm EST

# Young Professional Gift

- Tonight we will be giving out a process safety book to one of our young professionals
- Raise your hand if you are a young professional and would like to be in our random drawing
- These books retail for \$125



**December 2011,  
Hardcover**





# Speaker Introduction

Amanda Robben, VLS Chair  
Thursday, November 17, 2011

# Disclaimer

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# VLS Keynote Speaker

- Work

- Technical Director, Center for Chemical Process Safety (CCPS) at American Institute of Chemical Engineers
- Past Director, Risk Management and Compliance at Bayer MaterialScience LLC
- Head - Health, Safety, Environment and Security, NAFTA at Bayer MaterialScience LLC
- Director - Health, Environment, Safety and Security - Baytown, TX at Bayer MaterialScience LLC
- Manager - Process Safety and Crisis Management - US at Bayer Corp

- Education

- Villanova University
- West Virginia University







# Closing Comments from Chair

Dan Lambert, chair

Thursday, January 26, 2012



# Thank you Louisa

- Thank you for speaking tonight
- As our way of saying thanks, we will be shipping you a coffee cup

VLS Thank you mug →



# Thanks for attending

- Thank you for joining us tonight!!
- Please come again next month
  - AIChE's member benefits support ChEs in their job search
    - Keynote: Camille Belcuore, AIChE Member Benefits Manager
    - Thursday, February 23, 2012 09:00 pm - 10:00 pm EST