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American Institute of Chemical Engineers

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Contact Information

Visit our website:

<http://www.wscaiche.org>

Email us at:

sec@wscaiche.org

October Meeting Thank You

WSCAICHE would like to extend a thank you to Mr. John Sewell of Beta Engineering for presenting a wonderful presentation on the electrical transmission system (the grid) in the US. This very informative presentation was attended by about 25 people including about 10 Clemson students.

November Meeting: QLI International - Effective Communication and Networking



Please join us for Mr. Manfred Gollent's presentation on "Effective Communication and Networking" on November 17th. Communications technology has seen more advancement than many other fields. Tremendous progress has been made which allows us to communicate over vast oceans through satellites, and to be informed of events happening across the world as they happen. Why is it that with all these advances, one of biggest problems existing today is

"communication?"

Networking has become a key element in today's business environment. Independent of business size, the networking activities take place on an intra as well as inter business level. It is about bringing people together and developing the basis for further cooperation and collaboration. How to combine good personal communication with the process of effective networking?

Manfred Gollent is a Certified Business Coach (CBC), Improvement Architect and Change Agent helping clients ranging from individual professionals to Fortune 500

organizations make more money, improve results faster, expand their potential, reach their goals more consistently and rise beyond the ordinary. In this capacity Manfred coaches individuals and groups, facilitates Strategy Development, Productivity and Efficiency Development as well as Team Building and Organizational Development.

Prior to founding QLI International (www.qli-international.com) in spring of 2006, Manfred Gollent has been a turn-around executive in a Fortune 500 company with global operations for some 23 years. He led the rebuilding of underperforming subsidiaries in the United States, Europe and Asia by developing their leadership team and organization as well as restructuring their market portfolio, operations and efficiency to improve results towards meeting investors expectations.

His corporate senior executive roles took him to work in the UK, Belgium, Norway, France, Spain, Italy, Germany, Singapore, Philippines, Hong Kong, Taiwan, Australia and the USA. He served on company Boards in Norway, U.K., France, Belgium, Spain, Singapore, Taiwan, Australia and U.S.A.

Manfred has a degree in Electrical Engineering and an Executive MBA from IMADEC University in Vienna, Austria (www.imadec.at). He is certified in training and marketing by ASI, a certified facilitator and affiliate of the Total Quality Institute, and is a certified affiliate and trainer of the Resource Associate Network. Manfred is also on the coaching bench of Lee Hecht Harrison (www.lhh.com), a leading global talent development company serving as an executive coach.

He is a guest lecturer on leadership development for the International Executive MBA program at EPFL (www.epfl.ch), the leading university in the field of engineering & technology management in Switzerland and writes articles for various publications. Manfred gives presentations to organizations and professional associations on topics including strategic planning, sales development, process management, leadership development, customer loyalty and goal achievement.

November MEETING SUMMARY

DATE: Tuesday, November 17, 2009
TIME: 6:00 PM Social
6:30 PM Dinner
7:00 PM Presentation
LOCATION: Hilton, Greenville
45 West Orchard Park Drive
Greenville, SC 29615
DIRECTIONS: I-385 @ Haywood Road Exit #39
COST: \$10 for Members
\$15 for Non-members
Free to Attend Presentation Only

Please reply to Secretary Jeremiah Batiste at sec@wscaiche.org by NOON Friday, November 13, 2009. Remember to include any dietary restrictions.

Note that the dinner portion of the meeting is not mandatory. Arrive by 7:00 pm if you want to attend the presentation without dinner.

Only RSVP if you plan to dine with us.

Sponsoring Opportunities

We would like to offer a sponsorship opportunity to any organization that would like to advertise in our newsletter. Rates for advertisements are as follows:

	1 Issue	3 Issues	7 Issues
Banner (6" x 1.5")	\$50	\$135	\$290
Half Page	\$70	\$190	\$400
Full Page	\$120	\$330	\$685

We are also offering single meeting sponsorships for \$500 which includes up to a full page advertisement in that month's newsletter and recognition at the monthly meeting. Please contact Jeremiah Batiste at sec@wscaiche.org for more information.

October and November CCPS Process Safety Beacon Highlights

October - Overflow + Ignition = Tank Farm Fire! (Part 2)

A large storage tank containing a flammable liquid overflowed. Two operators responded to the report of a possible spill by driving a truck to the area to investigate. Within minutes, there was a loud explosion followed by a fire. It is believed that the truck provided the ignition source. It took emergency response personnel a day and a half to extinguish the fires which spread through the tank farm. More than a dozen employees were hospitalized and there was significant property damage.

Do you know?

- An internal combustion engine (gasoline or diesel) can be an ignition source for a flammable vapor cloud. Internal combustion engines are commonly used in motor vehicles, and also in other portable equipment used in plant operation, maintenance, and construction.
- The temperature of hot surfaces of an engine can exceed the autoignition temperature of many common flammable vapors.
- If a flammable vapor is present in the air taken into an engine, the flammable vapor provides additional fuel and can cause the engine to run faster.

- Diesel engines have been reported to continue running using the flammable atmosphere as a source for fuel and air. The reason is that diesel engines operate by igniting the fuel by compression heating while gasoline engines use spark plugs.

What can you do?

- Never drive into an area where you suspect there might be a flammable vapor cloud!
- Remember that other equipment driven by an internal combustion engine can also act as an ignition source. Such equipment might include mobile or portable generators, air compressors, engine driven pumps, and lawn mowers, for example.
- Many plants which handle flammable materials require a hot work permit for operation of a motor vehicle or other engine in certain areas. You should be familiar with your plant policies and requirements and always follow them.
- If the engine of a vehicle you are driving begins to rev up by itself, shut it down and get out immediately. You may have driven into a flammable atmosphere!
- Some facilities require that all engines be fitted with a positive air shut off. Know if your plant requires this. If it does, make sure that you are fully trained on how this equipment works, how and when to use it, and how to maintain it.

November – BLEVE!

Twenty-five years ago, on November 19, 1984, a major fire and series of catastrophic explosions occurred at a Liquefied Petroleum Gas (LPG) storage and distribution terminal in Mexico City. About 600 people were killed, around 7,000 injured, 200,000 people were evacuated, and the terminal was destroyed. The blasts were detected on a seismometer 20 kilometers from the terminal. Nine explosions were recorded, the largest being 0.5 on the Richter Scale. Because of the damage, the cause of the accident was not definitely established. It appears that a large quantity of LPG leaked from a pipeline or tank, spilled into a walled enclosure, and formed a flammable vapor cloud which ignited. The resulting flash fire and explosion impacted other LPG storage spheres, tanks, and piping, releasing additional LPG and exposing other tanks to fire. Many of the explosions were of a type called Boiling Liquid Expanding Vapor Explosions (BLEVEs). These were caused by the failure of LPG vessels which had been exposed to flames or heat from the fires. After the incident, it was reported that there had been many problems with inoperative or bypassed safety devices, a missing relief valve, poor housekeeping, and inaccurate instruments.

Do you know?

- A BLEVE occurs when a vessel containing liquid above its normal boiling point and under pressure fails catastrophically. When the vessel fails, the pressure immediately drops to atmospheric, and the hot liquid rapidly boils, generating a large quantity of vapor. The damage is caused by the pressure wave from rapid expansion of the released vapor, and from flying

pieces of the vessel and piping. If the material is flammable, it can ignite and create a large fireball.

- A BLEVE can occur for many reasons, including excessive pressure in the vessel, damage to a pressurized vessel from mechanical impact or corrosion, and exposure of a pressurized vessel to external fire.
- A vessel exposed to external fire may fail below its design pressure, resulting in a BLEVE, if the vapor space of the vessel is exposed to flames. The flames heat and weaken the metal, causing it to fail.
- Water spray fire protection systems such as fixed deluge systems or fire water monitor nozzles are an effective way to keep vessels cool enough to maintain their mechanical integrity when exposed to fire.

What can you do?

- Be sure that the fixed water spray fire protection systems in your plant are available and working. They provide important protection against a BLEVE.
- Understand firefighting procedures to protect emergency response personnel.
- Know what the worst events that could occur in your plant are, what systems are in place to ensure these events do not happen, and your responsibility to verify that these systems are working properly.
- Immediately report any problems with protective safety systems and follow up to make sure they are fixed.

www.aiche.org/CCPS/Publications/Beacon/index.asp

2009-2010 Calendar of Events

DATE	LOCATION	TOPIC
17 Nov 2009	Hilton	QLI International - Personal Goals
12 Jan 2010	Hilton	ANSYS - Computational Fluid Dynamics
13 Feb 2010	Roper Mountain Science Center	Kids Engineering Day
16 Feb 2010	Hilton	TBD - Clemson University Provided Speaker
16 Mar 2010	Hilton	WESCO - Safety Systems 101
20 Apr 2010	TBD	Plant Tour
May 2010	Fluor Field	Social

Clemson Scholarship Reminder

This year, WSAICHE will again support the Chemical Engineering program at Clemson by offering a \$1,000 scholarship. The application is available on our Website – www.wscaiche.org. Applications should be complete by January 31, 2010.

2009-2010 Officers and Executive Committee

Many thanks to the continued efforts of those in providing leadership to our Section. Members with a desire to serve can contact any Officer or Executive Committee member.

POSITION	NAME	EMAIL	PHONE
Chair	Austin Crooks	austin.crooks@fluor.com	864-281-4635
Vice-Chair	Rick Vogel	rvogel1@hotmail.com	864-254-6474
Secretary	Jeremiah Batiste	sec@wscaiche.org	864-281-6409
Treasurer	David Laursen	david.laursen@fluor.com	864-281-5981
Historian	Aaron Ross	aaron.ross@fluor.com	864-281-5274
Webmaster	Eugene Gill	eugene.gill@fluor.com	864-281-8627
Other Executive Committee Members are: Oren Webb, Mary Ferris, David Harshbarger, Ann Marie Jones, and James Young.			

Active participation in professional societies as well as attending our professional and technical presentations count towards Continuing Professional Competency requirements for Licensed Professional Engineers. Upon request, the Section Secretary can provide attendance verifications for this purpose to our members.