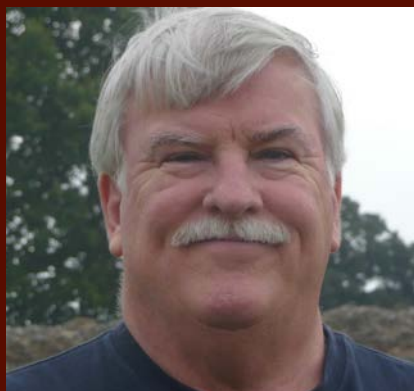


29th Annual Conference
Central Illinois Fire Investigators Association
February 21st –23rd, 2020



This Years Topic:
All About Explosions

Including:
Combustion
Mechanical
Chemical
Nuclear



Jack Malooly

2020
Featured
Speakers



Mitch Rackers

All Sessions are Tested and Sanctioned by IL-IAAI

Location : Holiday Inn and Suites Peoria at Grand Prairie 7601 N. Orange Prairie Peoria, IL



Who Should Attend

- * Fire/Arson Investigators, Public and Private Sector
- * Insurance Industry
- * Fire Department First Responders
- * Law Enforcement Officers/Investigators/Detectives
- * Prosecutors
- * Federal State, County, or Local Level Investigators
- * Military Investigators
- * Engineers, consultants and anyone else who is tasked with the duty of Investigating fires.

Why Should Investigators Attend

- * In today's investigations it is imperative the investigator can demonstrate that he/she is following and in compliance with the standards of the fire investigation industry, for the purpose of this class NFPA® 1033 Professional Qualifications for Fire Investigator.
- * When you testify or are required to participate in depositions the expert may be required to present an up to date and accurate curriculum vitae that includes compliance documentation with regard to the requirements of the NFPA® 1033 standard.
- * Fire investigators have been familiar with NFPA® 921, Guide for Fire and Explosion Investigators for many years. Today as an investigator, the question must be asked, can I assure the court, opposing counsel, and my agency or company, that I meet the requirements of NFPA® 1033, Professional Qualifications for Fire Investigator, Especially in the area of the post-secondary education requirements.



Conference Schedule—Friday, February 21st

11 AM - 1 PM **Sign-in and Registration / Ticket for Raffle**

1 - 2:45 PM **Peoria Police Bomb Squad**

“Presentation of Equipment”

Peoria Police will demonstrate the equipment and training of this specialized unit within the Peoria Police Department. They will also discuss clues for the first responder when responding to an explosive event.

2:45 - 3:00 PM **Break**

3:00 - 5 PM **by Mitch Rackers, P.E., CFEI**

“Gas Distribution Systems and Appliances”

This session will provide a basic overview of both natural gas and LP gas distribution systems and appliances commonly present in residential and commercial buildings. Topics to be covered may include:

1. Physical properties and the lower and upper explosive limits for natural gas and LP.
2. Typical system and appliance pressures.
3. Potential failure modes of distribution systems and appliances that may cause the release of fugitive gases.
4. Available sources of data, such as Automatic Meter Readings (AMR) systems.
5. Post incident evaluation of distribution systems.
6. Gas odorants.
7. Demonstration of leakage flowrate at various pressures.
8. One or more abbreviated case studies involving fuel gas explosions.

7 - 11 PM **Hospitality Room**



Fridays Conference Schedule

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Saturday Conference Schedule

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Conference Schedule Saturday, February 22nd

- 7 - 8 AM **Sign-in and Registration / Ticket for Raffle**
- 8 - 8:15 AM **Opening Introductions**
- 8:15 - 9 AM **Natural Gas Explosion or ? A Case Study by John Malooly**
- 9 - 9:45 AM **The Nuts and Bolts of Explosions by John Malooly**

This section will cover the subject of explosions in general, covering both deflagrations and detonations. Topics to be covered include:

1. Types of explosions, e.g., chemical, nuclear, mechanical
2. Diffuse phase explosions (combustion explosions, fuel/air explosions) involving fugitive gases, vapors or dusts
3. Basic explosion theory regarding combustion explosions
4. Factors controlling types of explosion damage
5. Fuels commonly involved in diffuse phase explosions
6. Dust explosion hazards
7. Military and commercial explosives recognition
8. Low explosives, high explosives, blasting agents
9. Improvised explosives, e.g., TATP, HMTD, homemade black powder, chlorate explosives
10. Improvised explosive devices
11. Case studies will be used to illustrate some examples from the real world.
12. Assessment tools for first responders: how to determine what type of explosion you are dealing with; who to contact for assistance

- 9:45 - 10 AM **Break**
- 10:00 - Noon **The Nuts and Bolts of Explosions (Cont.) by John Malooly**
- Noon - 1 PM **Lunch Provided**



Saturday Conference Schedule

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Conference Schedule Saturday, February 22nd

1 - 3 PM **The Nuts and Bolts of Explosions (Cont.) by John Malooly**

This section will cover the subject of explosions in general, covering both deflagrations and detonations. Topics to be covered include:

1. Types of explosions, e.g., chemical, nuclear, mechanical
2. Diffuse phase explosions (combustion explosions, fuel/air explosions) involving fugitive gases, vapors or dusts
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9. Improvised explosives, e.g., TATP, HMTD, homemade black powder, chlorate explosives
10. Improvised explosive devices
11. Case studies will be used to illustrate some examples from the real world.
12. Assessment tools for first responders: how to determine what type of explosion you are dealing with; who to contact for assistance

3 - 3:15 PM **Break**

3 - 5 PM **The Nuts and Bolts of Explosions (Cont.) by John Malooly**

7 - 11 PM **Hospitality Room**



Sunday Conference Schedule

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Conference Schedule Sunday, February 23rd

- 7-8 AM Sign – in
- 8-8:15 AM Opening Introductions and Announcements
- 8:15-10 AM Oklahoma City Bombing (Murrah Federal Building)
by John Malooly

The Sunday session will cover the terrorist bombing and progressive building collapse of the Murrah Federal Building in Oklahoma City, April 19, 1995. The presentation will include some never-before publicly shown videos taken from inside and outside the partially destroyed building during the scene investigation.

10– 10:15 AM Break

- 10:15– 11:30 Oklahoma City Bombing (Murrah Federal Building)
by John Malooly

Questions and Answers

Post Test

**Note all listed times are approximately and may slightly vary due to questions, class studies, or special interest subject matter being extended in any particular section.*



Featured Speaker



John E. Malooly

**Senior Special Agent (Retired) with
US Department of Justice Bureau of Alcohol,
Tobacco & Firearms (ATF) Firearms
Arson-Explosives Group**

John E. Malooly retired in 2005 as a Senior Special Agent with the U.S. Department of Justice, Bureau of Alcohol, Tobacco & Firearms (ATF) Arson/Explosives Group, in the Chicago Field Division. He had been with ATF for 31 years.

He had been a member of ATF's National Response Team since 1980. In that capacity, he conducted fire and explosives investigations throughout the country as both an ATF Certified Explosives Specialist and ATF Certified Fire Investigator. Agent Malooly was an active member of ATF's International Response Team since its inception in 1991. This team was formed to assist both the State Department and the U.S. Military in conducting major fire and explosion investigations around the world.

In addition he has lectured in the United States, Great Britain, Canada, The Netherlands, Romania, Indonesia, and Malaysia. He has taught courses in Explosives Recognition, Improvised Explosive Devices, and Post Blast Crime Scene Investigation at the International Law Enforcement Academies (ILEA), in Bangkok, Thailand and Budapest, Hungary. In 2005, he taught courses for Iraqi Police officers in Explosives Recognition and Improvised Explosive Devices in Baghdad, Iraq.

Since retirement from government service, John has been president of his consulting company, Malooly & Associates, Inc., headquartered in Chicago, Illinois. The firm specializes in Fire and Explosion Investigation and Training. He has done extensive work with Nicor Gas and Peoples/ Northshore Gas as their outside expert. He is also an associate of Gardiner Associates, London, England.





Featured Speaker



Mitch Rackers, P.E., CFEI

Schaefer Engineering Inc.

Mitch graduated with a Mechanical Engineering Degree from the University of Missouri-Rolla in 1993 and is a licensed professional engineer in several states. Upon obtaining his engineering degree, Mitch performed thermodynamic and economic analysis for coal fired, combined cycle and nuclear power plants. He later took on the role of a product development engineer, developing and testing cast and machined automotive structural components. He then moved into the position of a senior design engineer for a heavy equipment manufacturer evaluating and rectifying premature failures and addressing various manufacturing concerns on a large mining vehicle product. In 2000, Mitch founded a consulting company that specialized in the design and development of ferrous and non-ferrous cast structural components in the automotive sector.

Since joining Schaefer Engineering in 2009, Mitch has provided engineering consulting services in the areas of vehicular accident investigation and reconstruction, product and system failure analysis, and has been involved in the determination of fire and explosion causation on many commercial, residential, equipment, and vehicular fire losses. Mitch also plays a vital role in applying new technology and innovation to forensic engineering investigations.

In addition to his professional experience, Mitch has a background in residential construction, automotive repair and tinkering with all things mechanical. A substantial portion of his experience originates from his participation in a couple of family businesses, including home construction and the operation of an automotive repairs garage. Mitch is a member of the American Society of Mechanical Engineers (ASME), the Society of Automotive Engineers (SAE) and Tau Beta Pi (the national engineering honor society).



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Thank you to the following Members

CIFIA would like to thank the following members and their departments for their dedicated work in making the 29th CIFIA conference a success.

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John Knapp	East Peoria Fire Department
Dave Price	Chillicothe Fire Department
Brad Pierson	Peoria Fire Department
Robert Nodine	Country Financial
Steve Chasteen	Firetech Inc.



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IL-IAAI Mission Statement

The mission of the Illinois Chapter of the International Association of Arson Investigators:

- To unite for mutual benefit public officials, private persons, and associations who are engaged in the investigation of the origin and cause of fires.
- To provide, develop and support the establishment of training, educational programs and educational materials to improve the quality of fire investigations.
- To support and sponsor legislation which will improve the quality of fire investigations and reduce the incidents of Arson.
- To develop programs and implement strategies and initiatives to increase public awareness of Arson and its impact on our communities.
- To encourage high professional standards of conduct among fire investigators and continually strive to eliminate all factors that interfere with the investigation of the origin and cause of fires.

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For six decades, Nicor Gas has been serving Illinois customers with clean, [safe](#), reliable and [affordable](#) natural gas. As the state's largest natural gas distributor, and owner and operator of one of the largest natural gas aquifer storage systems in North America, we deliver the comfort and convenience of natural gas to 2.2 million residential, public sector and business customers in more than 650 communities throughout [northern Illinois](#).

With 2,000 employees constructing, operating, maintaining and inspecting our nearly [34,000-mile distribution system](#), the safety of our employees, the public and our pipelines is our highest priority. This commitment is demonstrated in our rigorous operating standards, safety training and monitoring, and our effort to continuously meet and exceed all state and federal regulations.

As an important contributor to the Illinois economy, we are dedicated to investing in programs and initiatives that enrich the [community](#), enhance [diversity](#), invigorate the [economy](#), promote [education](#) and support environmental stewardship. We leverage our assets and resources to improve the quality of life for the communities where we live, work and serve.

1855 Nicor Gas is a direct descendant of Ottawa Gas Light and Coke Company, the company that lit up the historic Lincoln-Douglas debate in Ottawa on Aug. 21, 1858.

1920s More than 70 gas companies eventually merge into three, including the Illinois Northern Utilities Company.

1950 - 1953 Illinois Northern Utilities Company becomes part of Public Service, and Public Service merges into Commonwealth Edison.

1954 Com Ed cuts ties with its gas properties. Northern Illinois Gas is formed from several companies in and around Ottawa.

Mid 1950s In 1955 Union Gas and Electric is acquired. Several years later, the groundwork is laid for the world's largest [underground gas storage system](#).

1960s We expand our service area and begin drilling for natural gas. We also increase our natural gas storage capacity by developing underground storage.

1997 Northern Illinois Gas begins operating its natural gas business as Nicor Gas.

2011 Nicor Gas becomes a subsidiary of AGL Resources Inc., an Atlanta-based energy holding company.

July 2016 AGL Resources becomes Southern Company Gas, a wholly-owned subsidiary of Southern Company.

Today As part of the Southern Company Gas family, we continue to deliver safe and reliable natural gas.

Keeping Gas Prices Down

Nicor Gas customers are connected to a [34,000-mile distribution system](#) that is part of a network of eight interstate pipelines. We purchase gas during the summer months when it is normally less expensive and store it for use throughout the year. This helps keep winter costs down and our year-round supply up. Our gas purchasing strategies, coupled with our underground storage facilities, ensure that Nicor Gas customers receive reliable, competitively-priced service.

Regional Offices

Our corporate office is in Naperville, Illinois, with regional offices located throughout our [service territory](#).

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Host Hotel

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Room Rate: \$96 per night

A limited number of rooms are available at this rate. Please call and reserve your room as soon as possible.

Contact the hotel directly for reservations.

To ensure discounted rate, please indicate you are with the Central Illinois Fire Investigators Association conference.



Hotel Facilities

Welcome to the new Holiday Inn and Suites Peoria at Grand Prairie! Peoria's newest Holiday Inn Hotel is situated amongst the beautiful and upscale Grand Prairie Development in north Peoria, IL. Surrounded by popular shopping, fine dining, casual eateries and the Louisville Slugger Sports Complex, this location is sure to entice both business and leisure travelers alike. Travel is easy and convenient being located just minutes away from the General Wayne Downing Peoria International Airport, I-74, and HWY 150/War Memorial Drive. Our non-smoking hotel is the perfect location when visiting Caterpillar, Peoria Civic Center, Illinois Eye Center, Louisville Slugger Sports Complex, Illinois Cancer Center, Monarch Music Hall or Bradley University's Renaissance Coliseum. Hotel guests may enjoy a plethora of amenities including an Indoor Saline Pool, Fully Equipped Fitness Center, Casually Exquisite Restaurant and Bar, Swift Room Service, Family Friendly Accommodations, and Market24 – an on-site 24 hour food mart. With just over 6000 square feet of banquet space available, let our attentive, expert staff help you plan your next corporate meeting, wedding, award banquet or other social event. With state of the art audio visual equipment, excellent lighting and exceptional catering, your event is sure to WOW.

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Internet Access

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Register online at www.cifia.org

Registration Fee

Active (Current) CIFIA Members \$150.00

Non- Members \$175.00

If Paying by Credit Card Please Contact

Josh Harris at (309) 494-8726 or jharris@peoriagov.org

Price includes all breaks and lunch on Saturday

No cancellation. Registration can be transferred when notice is sent in writing to CIFIA.



For more information, please contact:

Brad Pierson

(309) 494-8734

bperson@peoriagov.org

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Conference Date: February 21-23 2020

NOTE: Registrations must be postmarked by

February 10, 2020

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