

HOTZONE 2026 Pre-Conference

Course Descriptions

Thursday, October 22, 2026

At the Hotel

A1: New: Disaster Wargaming

8-Hours of Classroom

(Seating is Limited to 30)

Wargaming is as old as the American story itself, being first brought over during the U.S. Civil War at the famed West Point military academy. Used to win major battles in both the Pacific with the Battle of Midway and the Atlantic against the Nazi U-Boat menace. From the Cuban Missile Crisis to present-day, its impacts on the world and U.S. history can only be described as the stuff of mythic legend. It's the only exercise medium in which someone has won a Nobel Prize for in economic sciences. No other training or exercise medium can compare to wargaming.

**Arthur Simmental,
Joe Leonard**

A2: New: The HazMat Officer's Three-Ring Circus:

Managing the Chaos with Confidence

8-Hours of Hands-on Scenario Based Training

(Seating is Limited to 30)

This dynamic and interactive session is designed for Hazardous Materials Officers — and for those who aspire to lead at hazardous materials incidents. If you've ever found yourself trying to coordinate the "three-ring circus" that unfolds at a HazMat scene, this session is for you. Participants will explore the principles of incident management and risk-based response through engaging, hands-on activities and interactive technology that simulate real-world hazardous materials incidents. Using these tools, attendees will be guided through a variety of evolving situations that require quick thinking, sound judgment, and coordination across multiple response functions. Throughout the session, we'll connect lessons directly to NFPA 470, Chapter 17 Job Performance Requirements (JPRs) for the Hazardous Materials Officer position.

**Greg Socks, Chris Hawley
Robert Bradley,
Jason Waterfield**

A3: New: Joint Hazard Assessment Team (JHAT)

8-Hours of Classroom and Hands-on Training

(Seating is Limited to 45)

The Joint Hazard Assessment Team (JHAT) Training is designed to enhance interagency capability to identify, assess, and respond to complex hazardous threats. This course focuses on emerging and high-risk hazards including biological, radiological, pharmaceutical-based agents, and 4th-generation nerve agents, while reinforcing effective JHAT organization and operational coordination.

**Mike Wagner, Mike Parsons
Jack Palmer, Chris Moran
Trent North, Luke Sloan**

A4: New: HazMat Toxicology: Because "I Feel Fine" Means Nothing

8-Hours of Hands-on Scenario Based Training

The focus of the course is to apply emergency medical response to a hazardous materials incident for Pre-Hospital Response Teams by exploring the toxicology and the medical response from initial response, to the effects on body systems, injuries and treatment modalities. The presentation is organized to assist the team members in making decisions based upon information gained and weighted on a scale of risk versus benefit (field application) within the poisoned playground.

**Toby Bevelacqua,
Michelle Murphy**

A5: When Meters Matter: Air Monitoring for First Responders
8-Hours of Classroom Hands-on Training

**Scott Russell,
Ben Bosley**

(Seating is Limited to 45)

It is estimated that a majority of first responders can turn a meter on but have no idea what the readings mean when it alarms, nor the knowledge of the changing situation as a meter begins to register readings putting them at significant risk. This course focuses on the First Responder and how to use a meter properly, understanding the readings they see, and the implications of such on emergency responses.

A6: Field Classification, Identification and Verification
8-Hours Classroom Hands-on Training

**Brian Heinz
Josh Matlock**

(Seating is Limited to 25)

This 8-hour “wet chemistry” course will consist primarily of hands-on lab work with solid and liquid substances. Physical properties such as appearance, vapor pressure, viscosity and solubility will be analyzed and discussed as it relates to hazard characteristics determination and response tactics for hazardous materials/WMD team members. The chemical properties such as pH, water reactions, flammability, and various constituents, ions, and behaviors will be observed and perhaps verified by reference databases. Participants will work in small groups and test approximately 15 different samples throughout the day. Comparisons will be made using hot zone classification papers as well as technology identification results as each sample is tested to obtain the overall hazard picture and results confidence. Safety, personal protection, and proper technique when working with chemicals will be emphasized and stressed.

A7: Advanced Technical Reference:

Gary Sharp

This 8-hour instructor led, scenario based, course will prepare hazardous materials technicians serving as the technical reference/science officer employ multiple electronic references, calculators, and decision support tools to perform support key HazMat emergency risk-based response decision making including: establishing control zones, selecting personnel protection equipment (PPE), air monitoring, decontamination method selection, and determining mitigation and render safe tactics.

NOTE: Participants are encouraged to bring their devices (laptops, tablets, smartphones, etc.) for this interactive course.

HOTZONE 2025 Pre-Conference

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Off Site

A8: Houston Ship Channel Petrochemical HazMat

Familiarization Tour

8-Hours Field Training

(Seating is limited to 30)

Included in this one-day event will be a discussion on the different types of marine traffic, a brief discussion on Channel Industries Mutual Aid (CIMA), and a guided briefing on historical incident scenarios such as the ARCO Channelview explosion in 1990 (17 fatalities) the Phillips Complex incidents (1989, 2000 – 24 fatalities) and fire/spill events at numerous other facilities along the channel.

Participants will receive live demonstrations of fireboat capabilities, interact with Port Houston's maritime fire crews as well as conference instructors, all intended to enhance situational awareness and interagency response integration in the nation's most active petrochemical corridor.

**Bill Hand, Richard Lawhorn,
Mack Newell**

A9: HazMat Scenario Simulator

8-Hours of Hands-on Training at the Houston Fire Department

Jahnke Training Center

(Seating is Limited to 20)

We are excited to announce the return of the HazMat Scenario Simulator at the HFD Fire Academy for the 2026 HotZone. This hands-on, interactive program is designed to enhance incident command decision-making, teamwork, and response effectiveness in hazardous materials incidents. The simulator will feature multiple dynamic scenarios that mirror real-world hazardous materials emergencies. Each scenario will require a designated student to serve as Incident Commander (IC), responsible for assessing the situation, formulating a plan, and directing the response. The IC will "dispatch" fellow students to specific tasks and operational zones based on the evolving needs of the scenario. The rest of the participants will assume roles such as entry teams, decon, safety officers, and logistics. Immediate feedback and after-action reviews will follow each scenario to reinforce learning objectives and highlight areas for improvement.

**Trey Bourgeois, Edgar Amos,
Heather Hudson**

A10: Physical and Chemical Properties for Risk Based Response

8-Hours Interactive Training at The Woodlands

Emergency Services Training Center

(Seating is limited to 40)

During this 8-hour session, participants will witness the dynamic tendencies of hazardous materials brought to life through Physical and Chemical Properties demonstrations. During this lecture flash point, flammable range, boiling point, vapor pressure, auto ignition temperature, molecular weight, vapor density, and solubility will be demonstrated. This lecture will also demonstrate the properties of liquefied compressed gasses as well as cryogenics. These high energy fast paced demonstrations will leave the audience / students with a keen awareness of fire behavior and hazardous materials. Participants will have a better understanding of how to apply physical and chemical properties to fire behavior and hazard assessments.

Brian Ramsey

HOTZONE 2026

Course Descriptions

Friday, October 23, 2026

1:00 PM

D1: Air Monitoring Considerations for Initial Arriving HazMat Response

Part 1 of 2 Brian Ramsey

This course examines the strengths and weaknesses of standard 4 gas instruments that are carried by many hazmat teams and first arriving fire apparatus. In today's world critical decision making is predicated on not only using instrumentation but using it correctly. This class goes into essential decision making when using a 4-gas instrument for qualitative and quantitative monitoring at hazardous materials incidents. Participants will understand the following concepts, T-90 time and its relevance to accuracy, correction factors and when to apply, and common mistakes while using air monitoring equipment.

D2: New: HazMat Response to Smells

90 Minutes Chris Hawley

"It smells weird." That's it. That's the call. No placard. No obvious spill. Just a building full of people looking at you like you're supposed to magically know what's going on.

HazMat teams deal with odor complaints all the time—and some of them make perfect sense. Others? Not so much. This session dives headfirst into the common odors, the unusual odors, and the ones that make you question whether you're chasing a chemical problem or a ghost.

D3: COMPASS: The 60-Second HazMat Size-Up

Part 1 of 2 Monique Lewis

In today's response environment, it's easy to become overwhelmed by monitoring equipment, databases, and information overload, yet the first minute of a hazardous materials incident often determines the success of the entire response. This presentation revisits the proven COMPASS hazard assessment model, providing responders with a simple, structured framework for rapidly identifying hazards, establishing immediate protective actions, and making sound initial decisions while additional information is gathered. Through practical examples and real-world applications, attendees will learn how this often-overlooked tool enhances situational awareness, reduces cognitive overload, and improves decision-making for responders at every level. Participants will leave with a framework they can immediately apply during emergency responses and incorporate into training, tabletop exercises, annual refreshers, and technician development programs.

D4: Emergency Response to Illicit Labs

90 Minutes Toby Frost

The threat is ever changing, the challenges evolving, are you ready? Fentanyl, spice, bath salts and even marijuana grows and BHO labs, what are we getting into now? What old is new again as bath salts and club drugs are on the rise, and it can be seen coming across the borders. Meth labs, extractions, and conversion labs are popping up. Going beyond the hysteria, what are the real hazards of these mixtures?

D5: Inside the Fenceline: Preparing Responders for Industrial HazMat Incidents

**Part 1 of 2 Keith Silverman,
Bill Cullen**

Recent high-profile chemical plant spills, releases, and uncontrolled reaction incidents in 2026 have again highlighted a difficult reality: "inside the fenceline" emergencies are far from routine, often leaving even experienced responders feeling underprepared. These incidents are not simply hazardous materials calls – they involve complex industrial processes, interconnected systems, specialized equipment, unique rescue challenges, and rapidly escalating conditions that demand a different level of situational awareness and tactical decision-making.

D6: New: Saving Ourselves (S.O.S.):**Part 1 of 2****Scott Russell****The Hidden Hazards of Modern Firegrounds**

The health and safety of your personnel is your number one priority—but do you truly understand what's in the smoke you're breathing?

This eye-opening course goes far beyond carbon monoxide (CO) and hydrogen cyanide (HCN) to explore the complex and dangerous chemistry of modern fireground smoke. Today's fires—driven by synthetic materials, plastics, and engineered products—produce a vast array of toxic gases, ultrafine particulates, and carcinogens that are reshaping the long-term health risks faced by firefighters.

D7: Scenario-Base Training:**90 Minutes****Glen Rudner****Running Out of Ideas?**

Scenario based training has become the most common way of training response teams to work together. However, the challenges that are always present include: the same ideas, little variation, lack of realism, and not setting attainable goals. Through a series of questions and discussions the presenters will guide you through the obstacles described and help you to develop more effective whole skill exercises and drills to improve your team and the others that respond with you.

D8 New: Hazardous Materials Research**90 Minutes****Dave Donohue****Roles and Responsibilities**

This session focuses on the roles and responsibilities of the hazardous materials research technical specialist. This position is critical to establishing zones, supporting entry, and providing actionable intelligence for multiple positions within the organization.

D9: Emergency Response to Corrosives Incidents:**90 Minutes****Tommy Murdock****Thinking it Through**

The topic of corrosives includes a large category of compounds used in industrial applications, including inorganic acids and bases, organic acids and bases and acidic and basic gases. According to the Pipeline and Hazardous Materials Administration, in 2024 there were approximately 12,000 DOT incidents involving spills of corrosive chemicals in transportation. This class will briefly review common terminology describing corrosives, including the definition of acid and base, concentration, acid and base strength, pH, and hands on demonstrations of Heat of Solution, Heat of Dilution and neutralization. The risk-based response process (APIE) will be used to analyze hazards of corrosives, which include corrosivity, toxicity, oxidizer, flammability and reactivity. Incidents involving spills of corrosives will be reviewed to provide students with an opportunity to develop strategy and tactics (plan) to mitigate corrosives incidents. There will be emphasis on the unique toxicity of hydrofluoric acid and emergency medical treatment for exposure to HF. Nitric acid is a strong acid and a powerful oxidizer and frequently reacts with metals and organic material to afford nitrogen dioxide. The delayed toxicity of nitrogen dioxide will be discussed. Some demonstrations will be conducted in class.

D10: New: BioIQ**Part 1 of 2****Chris Aguirre,
Bob Suarez**

BioTechIQ is a risk-based training program that prepares emergency responders, law enforcement personnel, military teams, and hazardous materials professionals to safely and effectively respond to biological threats, suspicious powders, and unknown substances. BioTechIQ provides a practical, standardized framework for identifying potential biological hazards, assessing risks, selecting appropriate personal protective equipment (PPE), and implementing safe response and decontamination procedures.

Course Descriptions

Friday, October 23, 2026

3:00 PM

E1: Air Monitoring Considerations for

Part 2 of 2

Brian Ramsey

Initial Arriving HazMat Response

This course examines the strengths and weaknesses of standard 4 gas instruments that are carried by many hazmat teams and first arriving fire apparatus. In today's world critical decision making is predicated on not only using instrumentation but using it correctly. This class goes into essential decision making when using a 4-gas instrument for qualitative and quantitative monitoring at hazardous materials incidents. Participants will understand the following concepts, T-90 time and its relevance to accuracy, correction factors and when to apply, and common mistakes while using air monitoring equipment.

E2: New: The Dust Explosion Pentagon

90 Minutes

Greg Socks,
Jason Waterfield

A dust explosion is the rapid combustion of fine, airborne particle in an enclosed space. It occurs when five critical elements—fuel, oxygen, dispersion, confinement, and an ignition source—interact simultaneously, a concept known as the Dust Explosion Pentagon. This presentation will discuss a step-by-step breakdown of how a dust explosion happens and the anatomy of the blast. Case studies will be presented as educational tools.

E3: COMPASS: The 60-Second HazMat Size-Up

Part 2 of 2

Monique Lewis

In today's response environment, it's easy to become overwhelmed by monitoring equipment, databases, and information overload, yet the first minute of a hazardous materials incident often determines the success of the entire response. This presentation revisits the proven COMPASS hazard assessment model, providing responders with a simple, structured framework for rapidly identifying hazards, establishing immediate protective actions, and making sound initial decisions while additional information is gathered. Through practical examples and real-world applications, attendees will learn how this often-overlooked tool enhances situational awareness, reduces cognitive overload, and improves decision-making for responders at every level. Participants will leave with a framework they can immediately apply during emergency responses and incorporate into training, tabletop exercises, annual refreshers, and technician development programs.

E4: Risk Based Response

90 Minutes

Toby Frost

to Solar Energy

Solar energy is popping up all over from residential services to commercial and utility installations, are you ready? In this presentation we go through what are solar energy systems, how are they installed, and how to isolate or mitigate the systems. We will identify the hazards associated with solar energy to responders during and after an incident. We will also cover how to render safe these systems during a failure or after damage.

E5: Inside the Fenceline: Preparing Responders for Industrial HazMat Incidents

Part 2 of 2

Keith Silverman,
Bill Cullen

Recent high-profile chemical plant spills, releases, and uncontrolled reaction incidents in 2026 have again highlighted a difficult reality: "inside the fenceline" emergencies are far from routine, often leaving even experienced responders feeling underprepared. These incidents are not simply hazardous materials calls – they involve complex industrial processes, interconnected systems, specialized equipment, unique rescue challenges, and rapidly escalating conditions that demand a different level of situational awareness and tactical decision-making.

E6: New: Saving Ourselves (S.O.S.):**Part 2 of 2****Scott Russell****The Hidden Hazards of Modern Firegrounds**

The health and safety of your personnel is your number one priority—but do you truly understand what's in the smoke you're breathing?

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E7: SNG, RNG, LNG – OMG!**90 Minutes****Larry Jantzen**

Have you heard of Synthetic Natural Gas, Renewable Natural Gas and Liquefied Natural Gas? Do you know what they are and what the differences between them are? Are they different from Traditional Natural Gas? How are they made? What about Hydrogen Enriched Natural Gas? What is a Virtual Pipeline? What should First Responders and HazMat Technicians know before responding to incidents involving them or to facilities producing/manufacturing them? This interactive presentation addresses all of these questions and more

E8: Risk-Based Response to Biological Threats**90 Minutes****Christina Baxter**

The threat posed by biological threats have greatly increased in the past year due to new terrorism-inspired guidance in Inspire Guides, Invade Magazine, and other online sources. The core shift has changed from mass casualty attacks (such state-sponsored programs targeting water supplies) to low-signature assassinations and targeted delivery for a high concentration and fewer victims. In parallel, the threat has evolved from simple white powders to the tactical use of the traditional toxins such as botulinum, ricin, and abrin as well as the emerging threats of nicotine and other marine/plant/animal-derived toxins. This course will cover the evolving threat as well as highlight indicators and warning of production while also covering modernized protection, detection, and decontamination strategies.

E9: New: Responding to Natural Gas Emergencies**90 Minutes****Mike Callan**

Natural gas emergencies present some of the most unpredictable IDLH environments a first responder will encounter — but odor alone is never enough to define the danger zone. This 90-minute session walks responders through the DOT ERG 7-step framework for natural gas incidents, from cautious approach and scene isolation to hazard identification and safe implementation of ICS. Participants will learn to recognize the properties and behavior of natural gas, understand the transmission and distribution system they're operating around, and correctly assess when a scene has crossed into IDLH territory requiring evacuation, shelter-in-place, or specialized PPE (SCBA/SFPC). As with all high-hazard response, the message is consistent: resist rushing in, call the utility company, and prioritize responder safety first.

E10: New: BioIQ**Part 2 of 2****Chris Aguirre,
Bob Suarez**

BioTechIQ is a risk-based training program that prepares emergency responders, law enforcement personnel, military teams, and hazardous materials professionals to safely and effectively respond to biological threats, suspicious powders, and unknown substances. BioTechIQ provides a practical, standardized framework for identifying potential biological hazards, assessing risks, selecting appropriate personal protective equipment (PPE), and implementing safe response and decontamination procedures.

Course Descriptions

Saturday, October 24, 2026

8:00 AM

F1: Hold My Matches and Watch This

Part 1 of 2 Brian Ramsey

Hold my matches and watch this! A highly interactive demonstration of the physical and chemical properties of flammable liquids and flammable gases! During these sessions, participants will witness flash point, flammable range, vapor pressure, boiling point, and vapor density. Additionally, we will be demonstrating the dynamic tendencies of flammable vapors when they encounter oxygen and ignition sources to create the "Boom" that tends to surprise us if we don't fully understand the hazards of our response situation!

F2: New: How to Create a Venom Response Team for Your Department

Part 1 of 2 Greg Kelly, Chris Aguirre,
Ernie Gillson

Are you prepared to respond to a snake bite, spider bite, or scorpion sting? We will discuss the different types of poisonous animals and plants. The students will learn the steps to create a Venom Response Team. We will discuss the toxicity, routes of exposure, antidotes, effects on the human body and past incidents.

F3: Advanced Response to EVS and Battery Emergencies

90 Minutes Toby Frost

An update on the current state of Electric Vehicle and Battery fires, and our options. Blankets, Nozzles, Foams...everyone seems to have an answer, but what works? In the class we will look at new and emerging options for attacking EV fires, based on actual EV fires. Strategies and tactics for handling these events will be discussed, including the how and why. Letting them burn is not the only option available to us today.

F4: Beyond the Beep: Understanding Haz Mat Monitoring Equipment

Part 1 of 2 Josh Matlock,
Brian Heinz

This course provides emergency responders with a practical understanding of hazardous materials monitoring equipment used during incident response operations. Participants will learn how common sensor technology functions, how to interpret meter readings, and how equipment capabilities and limitations can impact monitoring results. Through classroom instruction, live demonstrations, and discussion of real-world response scenarios, students will develop a stronger understanding of how monitoring equipment should be properly applied to support informed decision-making during hazardous materials incidents.

F5: New: Safe, Unsafe, and Dangerous: A Practical Approach to Handling Hazardous Materials

Part 1 of 2 Mike Callan

This program is about real-life hazmat emergency response. These are lessons that have been learned by emergency responders over the last twenty years in the street. Street Smart HazMat gives the student information that they can put to use immediately in the street. Recognizing when it's safe or dangerous is the beginning of developing a proper mitigation process, site safety plan and/or emergency response to a chemical spill.

F6: Responding to Railroad Incidents Hazmat Isn't Always the Problem

Part 1 of 2 Glen Rudner

The railroads move many different products each and every day which include hazardous materials. But every incident that occurs that requires a response does not. This program explores and shows through case study's that the incidents that involve non-Haz Mats can be just as challenging. The program will discuss the environmental impacts and the decisions that must be to mitigate the incident safely. Sometimes thinking outside the box to mitigate an incident Is a good thing!

F7: How to Develop a Regional HazMat Training/Certification Program

**90 Minutes Larry Jantzen,
Marty Herrin**

Need to find a cost-effective way to train and certify members of your HazMat Team as HazMat Technicians? This session will show you how one group of dedicated people did just that by developing a collaborative Regional HazMat Training, Exercise and Technician Level Certification Program. The tips, techniques and recommendations presented, as well as how challenges, hurdles and struggles were overcome, are applicable to both small and large Departments.

**F8 : Loch Ness, Big Foot, and Dale's Cone of Learning.
Myths and Realities of Training**

90 Minutes Dave Donohue

This session focusses on the identifying and dispelling myths and legends that have entered the training realm and provide science-backed research of what works to improve the effectiveness of training.

**F9: New: AI In the Hot Zone :
Enhancing HazMat Research and Decision-Making**

**90 Minutes Toby Bevelacqua,
Michelle Murphy**

This class introduces responders to the practical use of artificial intelligence as a research support tool during hazardous materials incidents. Students will learn how AI can help speed up the process of locating, comparing, and organizing reference information from trusted sources such as the ERG, safety data sheets, NIOSH, CAMEO, WISER, and other chemical databases. The course emphasizes that AI does not replace responder judgment, field monitoring, or verified references, but can assist with faster chemical identification, hazard recognition, toxicology review, protective action considerations, and decision support during time-sensitive incidents.

F10: HazMat By the Numbers: Turning HazMat Terms Into Life Saving Decisions

90 Minutes Chris Hawley

Let's be honest—most of us learned vapor pressure just well enough to pass a test. You wrote down the definition, maybe talked about it a little, and then moved on. But when you're standing in front of a leaking drum at 2 AM, that definition doesn't help much if you don't know what it means for you.

This session takes vapor pressure—and a handful of other “fancy HazMat words”—and brings them back to where they belong: the street.

We're going to talk about what these terms actually tell you about the behavior of a product, how they connect directly to your health and safety, and why they matter when you're making real decisions. Not theory—application. The kind that drives what PPE you choose, how far you isolate, whether you evacuate, and how bad the situation is really going to get.

Because at the end of the day, this isn't about memorizing definitions. It's about understanding the science well enough to make good calls when things get messy.

If you've ever thought, “I know the term, but I don't really use the term,” this session is for you.

Course Descriptions

Saturday, October 24, 2026

10:00 AM

G1: Hold My Matches and Watch This

Part 2 of 2 Brian Ramsey

Hold my matches and watch this! A highly interactive demonstration of the physical and chemical properties of flammable liquids and flammable gases! During these sessions, participants will witness flash point, flammable range, vapor pressure, boiling point, and vapor density. Additionally, we will be demonstrating the dynamic tendencies of flammable vapors when they encounter oxygen and ignition sources to create the "Boom" that tends to surprise us if we don't fully understand the hazards of our response situation!

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G3: Crazy Concoctions, Obnoxious Odors, And Colored Smoke

90 Minutes Keith Silverman
Bill Cullen

Colorful smoke billows, strange odors fill the air, and bubbling beakers threaten a volatile reaction – the imagery of a lab gone wrong can spark anxiety in even the most seasoned responder. The sheer complexity of hazardous chemicals, specialized gases, and intricate laboratory equipment turns these emergencies into high-pressure unknowns. Add to that the unpredictable nature of scientific processes, and responder anxiety is understandable. Join us to strip away the mystery and empower yourself with critical insights for safe and effective laboratory response. In this workshop, you'll learn rapid situational assessment to quickly decipher complex lab environments and identify hidden dangers; to employ robust risk-based decision-making tailored for volatile lab environments; and how to protect yourself and your team in the face of unique lab hazards. Don't let the mystery of the lab intimidate you. Step into this workshop and gain the definitive edge in handling these challenging incidents.

G4: Beyond the Beep: Understanding Haz Mat Monitoring Equipment

Part 2 of 2 Josh Matlock,
Brian Heinz

This course provides emergency responders with a practical understanding of hazardous materials monitoring equipment used during incident response operations. Participants will learn how common sensor technology functions, how to interpret meter readings, and how equipment capabilities and limitations can impact monitoring results. Through classroom instruction, live demonstrations, and discussion of real-world response scenarios, students will develop a stronger understanding of how monitoring equipment should be properly applied to support informed decision-making during hazardous materials incidents.

G5: New: Safe, Unsafe, and Dangerous: A Practical Approach to Handling Hazardous Materials

Part 2 of 2 Mike Callan

This program is about real-life hazmat emergency response. These are lessons that have been learned by emergency responders over the last twenty years in the street. Street Smart HazMat gives the student information that they can put to use immediately in the street. Recognizing when it's safe or dangerous is the beginning of developing a proper mitigation process, site safety plan and/or emergency response to a chemical spill.

Hazmat Isn't Always the Problem

The railroads move many different products each and every day which include hazardous materials. But every incident that occurs that requires a response does not. This program explores and shows through case study's that the incidents that involve non-Haz Mats can be just as challenging. The program will discuss the environmental impacts and the decisions that must be to mitigate the incident safely. Sometimes thinking outside the box to mitigate an incident is a good thing!

G7: New: Alternative Fuels: Risk, Response, and Recommendations**90 Minutes Jim Elliott**

In response to the International Maritime Organization's (IMO) goal of reducing emissions from vessels, ship owners and operators continue to seek alternative fuels to power their fleets. These alternative fuels include liquified natural gas (LNG), methanol, ammonia, hydrogen, and others, such as nuclear. Lithium batteries now power tugs and ferries. Each alternative fuel presents its own unique risks and challenges to understand, mitigate and manage. The United States Coast Guard's salvage and marine firefighting regulations (SMFF) are currently limited in applicability to vessels carrying Group I-IV oils and Oil Spill Removal Organization (OSRO) regulations and guidelines apply to traditional "OPA 90" oils. Driven by increasingly outdated regulatory standards, the current salvage, marine firefighting and oil spill response industries are primarily focused on traditional oil containment, recovery, transfer, and storage operations. To address the risks created by alternative fuels, marine casualty response professionals will need to evolve in planning, preparedness, and response capabilities to manage these unique hazards and risk profiles. Both governmental and industry responders will need to be trained and equipped to respond to each hazard. Legal and policy frameworks, typically shaped in the wake of an incident, should be proactively advanced to ensure crew and responder safety and minimize impacts to the environment and marine transportation system. This presentation will address the risks and challenges associated with alternative fuels, provide the latest updates on the state of the industry and present operational and policy recommendations to improve life safety and environmental protection during marine casualty response operations.

G8: New: The Hazmat Teams Role in Confined Space Incidents: A Case Study 5 Deaths in 2 Separate Incidents**90 Minutes Jeff Zientek**

Confined space incidents happen frequently throughout the US! It has been discovered that these incidents need a hazardous materials component included because many times victims have been unable to self-extricate due to being overcome by some type of hazardous atmosphere. There are several critical tasks that the HM Team can perform to make sure the Entry Team is in the correct mode and can conduct their operation safely. The case studies discuss two incidents that happened in the Phx. (AZ) area that resulted in the deaths of 5 people total. Each incident contained different atmospheric hazards and different tactics were employed for each incident because of certain conditions. All of these will be reviewed and analyzed by the audience. What tasks are the responsibility of the Hazmat Team on these incidents? How does product identification affect the rescue/recovery? What is the PPE choice? These questions, plus other factors, will be explored in this very interactive class.

G9: Common Sense, Isn't**90 Minutes Monique Lewis**

"Use common sense" may be the most common instruction given in safety and hazardous materials response, yet it is often the least effective. The truth is that "common sense" is shaped by each person's experiences, training, and assumptions, making it anything but common when the stakes are high. In this engaging and humorous presentation, Certified Safety Professional Monique Lewis examines why relying on common sense leads to inconsistent decisions, near misses, and preventable incidents. Through real-world examples and practical strategies, attendees will learn how to build competency-based training programs that replace assumptions with shared expectations, creating a workforce that responds consistently, confidently, and safely.

**G10: Chemical Assisted Suicide:
Rescue versus Body Recovery****90 Minutes Tommy Murdock**

Chemical assisted suicide (CAS) is one method used to terminate one's life. A toxic chemical may be ingested, injected or inhaled using a combination of chemicals to produce toxic gases such as carbon monoxide, phosphine, hydrogen sulfide, etc. There is a risk of exposure to emergency responders to the hazards posed by hydrogen sulfide and the corrosive chemicals used to produce hydrogen sulfide. In our previous work (T.O. Murdock and C. Weber, 04Sep2014) we reported data generated from a series of experiments involving the generation of hydrogen sulfide in vehicles. The experiments were predicated on the observation that most of the suicide incidents were successful and involved a body recovery. More recently, there have been reports of attempted chemical suicide where the victim is still viable, therefore, the objective for emergency responders is a rescue operation rather than a body recovery. As a result, emergency responders, paramedics, ambulance crews and emergency room personnel may be contaminated or cross-contaminated by hydrogen sulfide and/or the chemical used to prepare hydrogen sulfide.

Course Descriptions

Saturday, October 24, 2025**1:00 PM****H1: Oxidizers and Swimming Pool Chemicals****Part 1 of 2 Tom Murdock**

Oxidizers are highly energetic chemicals that react violently with many other materials and may be involved in fires that are extremely difficult to extinguish. Swimming pool and spa chemicals are a class of inorganic oxidizers (DOT Hazard Class 5.1) that are commonly used in private, municipal, hotel and school pools and water treatment facilities. Swimming pool chemistry is discussed in terms of recognizing what chemicals and equipment you may expect to see and what has gone wrong when your hazardous materials response team has been summoned to an evacuation at a local pool. Several videos have been prepared that show violent reactions when incompatible materials are mixed with common pool chemicals. Organic peroxides, including hydrogen peroxide, (DOT Hazard Class 5.2) are widely used in pulp and paper manufacture, sanitizing surfaces in food processing plants, a variety of polymerization processes and synthetic organic reactions. Physical and chemical properties (The HazMat Dirty Dozen) and reactivity of organic peroxides are discussed and observed with video demonstrations. Students will learn to assess chemical hazards and risks using the APIE risk assessment model (Analyze, Plan, Implement and Evaluate) and develop the appropriate tactical response to those hazards during spills and fires involving inorganic and organic oxidizers in compliance with the advanced chemical risk assessment and analysis competency outlined in Chapter 38 of NFPA 470 (2022). This knowledge will allow students to provide their IC with recommendations for PPE, Zones and Perimeters Delineation, Monitoring, Decontamination, Respiratory Protection, Site Safety Plan, Evacuation vs Shelter-in-Place, etc.

H2: New: Poisons, Toxins, Pesticides, Oh My!

Part 1 of 2 Greg Kelly, Chris Aguirre,
Ernie Gillson

Poisons, Toxins & Pesticides, an area of Hazardous Materials that is too often overlooked. In this course we will discuss the different types of chemical poisons. We will also discuss the 8 different types of pesticides. We will discuss the toxicity, routes of exposure, antidotes, effects on the human body and past incidents.

H3: Hydrogen Emergencies

90 Minutes Christina Baxter

This course provides essential knowledge and insights for emergency responders regarding hydrogen, a rapidly emerging alternative fuel with various applications across industries. Participants will gain a comprehensive understanding of the properties, hazards, and safety considerations associated with hydrogen, as well as best practices for responding to incidents involving hydrogen leaks, fires, and explosions. Join us to learn how to effectively assess risks, implement appropriate response measures, and ensure the safety of yourselves and the public in hydrogen-related emergencies.

H4: Beyond the Hole: The Hidden HazMat in Tech Rescue

90 Minutes Monique Lewis

Technical rescue incidents, especially confined spaces, are often approached as rescue problems first and hazardous materials incidents second, yet responders routinely encounter toxic atmospheres, combustible gases, oxygen-deficient environments, energized systems, agricultural chemicals, floodwater contaminants, and other hazards that can rapidly turn a rescue into a responder emergency. Through real-world case studies and lessons learned from industrial consulting and emergency response, Certified Safety Professional Monique Lewis examines the often-overlooked intersection between hazardous materials and technical rescue. Participants will learn how to recognize hidden hazards, ask better questions during pre-incident planning and size-up, understand where OSHA, NFPA 2500, and NFPA 470 intersect and where there are glaring gaps, and apply practical risk assessment techniques across confined space, trench, industrial, agricultural, and water-related rescue environments. Whether serving on a rescue company, HazMat team, or in a leadership role, attendees will leave with actionable strategies for improving responder safety by integrating hazardous materials awareness into every technical rescue discipline.

H5: HazMat Officer Strategy & Tactics

90 Minutes Toby Frost

Hazmat events develop quickly and the first step is a solid plan. It can be overwhelming with information flying at you and questions unanswered. The HazMat Officer Strategy and Tactics course focuses on working with the incident commander and supporting agencies to develop quick, "street level" incident action plans (IAP) for small to large HazMat incidents. Participants will learn a simple, repeatable, process for IAP development and documentation that is easy to implement and is consistent with the National Incident Management System (NIMS) and NFPA 470 APIET (analyze, plan, implement, evaluate, and terminate) process.

H6: LNG Awareness, Safety, and Emergency Response: Train-the-Trainer

Part 1 of 2 Larry Jantzen

LNG production, storage, shipment and use as a vehicle fuel is constantly increasing in America, as well as globally. Emergency Responders must be familiar with the characteristics of LNG, how to recognize LNG roadway/rail transport vessels, LNG storage vessels, LNG fueled vehicles and LNG refueling stations. Responders must also know how to approach and manage an emergency situation involving a LNG fueled vehicle, roadway/railway transport vessel, storage vessel or fueling station. Attendees will be provided with a LNG awareness training package they can take back to their agency/jurisdiction. This package includes electronic versions of the instructor guide, student book, PowerPoint presentation, competency exam and answer sheet that are suitable for conducting the training in either traditional in-person deliveries or a distance learning format.

H7: First In Officer to Railroad Emergencies**90 Minutes Chris Burch**

This course focuses on the first two hours of a rail-related incident and is designed to align with broader industry efforts to standardize incident response messaging across railroads, fire services, and agencies. Built specifically for first-arriving responders, this training reinforces:

- Early scene size-up
- Recognizing when additional resources are needed
- Contacting railroad hazmat managers
- Using tools like AskRail and train consists

H8: HazMat Considerations for Small Modular Reactors as an Emerging Energy Technology**90 Minutes Robert Emery**

Increasing energy demands are driving the need for more and diverse energy sources to sustain and grow economies. Within this mix of sources will be the placement of inherently safe nuclear energy facilities known generically as “small modular reactors” (or SMR’s) in locations across the country. While the development of this energy technology has highlighted a workforce shortage in the nuclear energy fields, it also reveals a knowledge gap among hazmat professionals, as well as appointed and elected public officials, all of whom serve the communities where such facilities are to be located.

This presentation will summarize projected energy demands and provide an overview of the new nuclear technologies being developed and their inherent advantages and safety features. This will be followed by a review of the basics of radiation and radioactivity, including an orientation to the field of radiation safety known as health physics. From there, the discussion will lead to the questions and considerations that should be considered if such a facility is to be located in the community being served to ensure that constituents are informed with factual information and the safeguards in place.

H9:**H10: Challenging Foursome****Part 1 of 2 Greg Socks, Chris Hawley,
Bob Bradley,
Jason Waterfield**

From the farm field to the refinery, from rail cars to neighborhood tanks, liquefied gases are everywhere—and when they fail, the consequences can be catastrophic. This session provides an in-depth exploration of the similarities and differences among Liquefied Petroleum Gas (LPG), Liquefied Natural Gas (LNG), Chlorine, and Anhydrous Ammonia, focusing on their chemical and physical properties, transportation, storage, and use.

Saturday, October 24, 2026**3:00 PM****J1: Oxidizers and Swimming Pool Chemicals****Part 2 of 2 Tom Murdock**

Oxidizers are highly energetic chemicals that react violently with many other materials and may be involved in fires that are extremely difficult to extinguish. Swimming pool and spa chemicals are a class of inorganic oxidizers (DOT Hazard Class 5.1) that are commonly used in private, municipal, hotel and school pools and water treatment facilities. Swimming pool chemistry is discussed in terms of recognizing what chemicals and equipment you may expect to see and what has gone wrong when your hazardous materials response team has been summoned to an evacuation at a local pool. Several videos have been prepared that show violent

reactions when incompatible materials are mixed with common pool chemicals. Organic peroxides, including hydrogen peroxide, (DOT Hazard Class 5.2) are widely used in pulp and paper manufacture, sanitizing surfaces in food processing plants, a variety of polymerization processes and synthetic organic reactions. Physical and chemical properties (The HazMat Dirty Dozen) and reactivity of organic peroxides are discussed and observed with video demonstrations. Students will learn to assess chemical hazards and risks using the APIE risk assessment model (Analyze, Plan, Implement and Evaluate) and develop the appropriate tactical response to those hazards during spills and fires involving inorganic and organic oxidizers in compliance with the advanced chemical risk assessment and analysis competency outlined in Chapter 38 of NFPA 470 (2022). This knowledge will allow students to provide their IC with recommendations for PPE, Zones and Perimeters Delineation, Monitoring, Decontamination, Respiratory Protection, Site Safety Plan, Evacuation vs Shelter-in-Place, etc.

J2: New: Poisons, Toxins, Pesticides, Oh My!

**Part 2 of 2 Greg Kelly, Chris Aguirre,
Ernie Gillson**

Poisons, Toxins & Pesticides, an area of Hazardous Materials that is too often overlooked. In this course we will discuss the different types of chemical poisons. We will also discuss the 8 different types of pesticides. We will discuss the toxicity, routes of exposure, antidotes, effects on the human body and past incidents.

J3: Advanced HazMat/CBRN Detection

90 Minutes Christina Baxter

You have the technology and you can operate it, but do you know how to apply the data? How do all the advanced systems that we currently employ work together and which pieces of the puzzle do each answer? This course will focus on the advanced detection technologies including ion mobility spectroscopy, flame spectrophotometry, infrared spectroscopy, Raman spectroscopy, mass spectrometry, and others. Understanding what each can (and cannot) tell you is critical when trying to identify the threat.

**J4: Chemical Time Bombs: The Hidden Hazards
of Modern Structure Fires**

90 Minutes Tim Crockett

Modern structure fires have become hazardous materials incidents disguised as routine firefighting operations. The synthetic building materials, furnishings, plastics, engineered wood products, and household contents found in today's homes release a complex mixture of toxic, flammable, and potentially explosive gases long before firefighters encounter visible flame. Originally presented at Hot Zone 2025 and subsequently featured in the December 2025 issue of Fire Engineering, this updated program has been completely redesigned to reflect emerging research, current fireground realities, and lessons learned from actual incidents. Through real-world case studies, modern fire behavior analysis, and practical fireground applications, attendees will examine the chemical composition of smoke, vapor density hazards, ignition temperatures, flash points, and the dangerous conditions that can rapidly lead to flashover, smoke explosions, and firefighter entrapment.

**J5: New: The Good, the Bad, & the Ugly
of the Hazmat Incident**

90 Minutes Jeff Zientek

This class will take the audience through the set-up, team duties, helpful hints, and the dirty laundry that was discovered through the years of running hazmat incidents. Special & unique incidents will be reviewed, we will discuss what worked, what didn't work on incidents, and hopefully give the audience information that will improve your team. Nothing is spared in this presentation to help run a smooth incident and avoid pitfalls, my losses are your gains!

**J6: LNG Awareness, Safety, and Emergency Response:
Train-the-Trainer**

Part 2 of 2 Larry Jantzen

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**J7: Beyond the Box: Understanding Intermodal
Tank Containers in HazMat Response**

**90 Minutes Keith Silverman,
Toby Frost**

Intermodal containers – commonly known as isotainers or UN portable tanks, and freight containers – form the backbone of the global supply chain. If a product is grown, processed or manufactured anywhere in the world, chances are it moves in one of these standardized units. Their seamless transfer across marine, rail, and highway systems keeps the economy moving, but it also places hazardous materials in every community, every day.

**J8: Air Monitoring – Using the Technology
and What Is It Saying Meter**

90 Minutes Glen Rudner

The use of detection and monitoring is one of the most important parts of any incident involving a Hazardous Material or fire today. A response organization that does not use detection and monitoring and interpret the results placing themselves and the public in harm's way. The officer in charge can use properly interpreted results to determine scope of incident and public protection options. This class will cover the basics of air monitoring including some of the technologies, terminologies, and operation used during the initial response.

J9:

J10: Challenging Foursome

**Part 2 of 2 Greg Socks, Chris Hawley,
Bob Bradley,
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