

HOTZONE 2022

Opening Session **Friday, October 21, 2022**

KEYNOTE:

“What’s YOUR Career Incident?”

Over the course of a first responder’s career, a seasoned veteran can often point to that one major incident that left an indelible mark on their memory. Those incidents or events are often referred to as a “Career Incident”. I am certainly no different! After 48 years, there are a few that have stuck with me too. But nothing could compare to the terrible string of events that occurred over 18 months which included the Hurricane Harvey Response, then the ITC Terminal Fire, and the fatal KMCO Plant Explosion. This presentation will focus on some of the real-life stories from those “Career” incidents.

Rodney Reed and Bob Royall

GENERAL SESSION:

“Randy’s Story: How an Accident IMPACTS More Than Just You”

When somebody suffers a debilitating accident and is injured, the impact extends well beyond that person. Your family, extended family, and close friends are often mentally affected by the person’s struggles, long rehab, and in some cases the life-changing permanent impacts in yours and their lives as they support you. Come and hear “Randy’s Story”. It will touch you in many ways.

Randy Royall

Closing Session **Sunday, October 23, 2022**

CLOSING SESSION:

“After COVID, Where do we go from here?”

Well, we made it through the pandemic, now what?

Mike Callan

Pre-Conference Workshops – Thursday, October 20th – 8:00 AM

- A1** **“Risk-Based Approach Escape Room” (4 hours)** **½ Day On Site**
While every HazMat/WMD incident is unique, they share certain common elements, such as product, container(s), and the environment. This workshop will have teams compete to be able to endure the Risk-Based Approach Escape-Room. The activities will be scenario-based to engage participants to approach various challenges
Dave Donohue, Andrew Byrnes, and Tony Mussorfiti
- A3** **“Chem-Bio Response IQ – Responder-Centric Risk-Based Response Training”** **On Site**
SEGMENT 1 (AM): ABOVE THE LINE/BELOW THE LINE
Developed by responders, for responders; Above the Line/below the Line is the foundational, patented system that started it all. This training takes the typically complex world of Hazardous materials/Chemical Response and simplifies it for street level responder. Using Above the Line/Below© charts students are taught to efficiently size-up any chemical in minutes, determining the hazards, meters and PPE required for safe and effective response.
- SEGMENT 2: BIOTECHIQ: RISK-BASED RESPONSE TO BIOLOGICAL AGENTS; WHITE POWDERS; AND UNKNOWNNS.** BioTechIQ is a patent pending, sole source training program that trains responders to

implement risk-based response tactics to safely, effectively, and efficiently respond to any potential biological agent, white powder, or unknown. Developed by the creator of HazMatIQ, BioTechIQ follows the same responder-centric approach to train responders on the Biological Response Guide - a proprietary Emergency Response Guide for Biologicals. Through the use of the BRG, responders will learn how to:

- Quickly identify a potential biological agent, white powder, or unknown
- Determine the signs, symptoms, exposure route, and incubation period
- Select proper personal protective equipment (PPE)
- Choose the correct field and lab detection equipment
- Select the correct products for decon of patients, responders and equipment.
- Understand dwell times
- Use an illuminator detection instrument (PID for protein) to verify decon efficacy

Federal Resources

- A4 "Tactical Chemistry" (8 hours) On Site**
Tactical decisions at hazardous materials emergencies are heavily influenced by the released chemicals and their properties. Using NFPA 470 (2022) Chapters 34 and 38 as the framework, we will make tactical decisions at hazardous materials incidents fall into place using chemical demonstrations, scenario-based exercises, and hands-on chemical identification exercises using a variety of air-monitoring and sample identification equipment. We will examine the effect of chemical class, concentration, and complexity of mixtures on detection, identification, and product control. The class is highly interactive with students leading the direction of the class as we discuss multiple scenarios culled from the news and experience to illustrate the chemistry of hazardous materials.
Chris Weber & Rick Dufek
- A5 "HEINZ 5-Step Field ID Laboratory" (8 hours) On Site**
This "wet chemistry" course will consist primarily of hands-on lab work with liquid and solid unknown chemicals. The properties of various substances and chemical families will be discussed as each sample is analyzed and tested. Safety, personal protection, and proper techniques when working with chemicals will be emphasized and stressed. Participants will work in groups and tests approximately 12 samples throughout the day. Samples will consist of corrosives, oxidizers, flammable and combustible liquids, water reactives, and others. Physical properties such as appearance, thermal stability, vapor pressure and water behavior will be analyzed and discussed as it relates to hazard determination and response tactics for hazardous materials team members.
Brian Heinz
- A6 "Your HazMat Backup Team is Not a RIT!" (8 hours) at HFD Jahnke Fire Training Facility**
A Mayday rescue of a haz mat team Technician in the Hot Zone during an incident is a complex and extremely dangerous situation. Both HAZWOPER and NFPA 472 mention "backup teams", but do not provide much detail. The new NFPA 470 addresses all these issues. Many haz mat programs use a two-member entry team with a two-member backup team to meet this OSHA HAZWOPER requirement, but time is of the essence in this life-threatening situation and this is not the most effective solution. The Mayday Project offers some startling statistics that needs to be understood to have a successful rescue, instead of a recovery. There are many options on configuration, equipment needed and where to stage the backup team but there is much more that needs to be considered for an effective and safe program. Depending on conditions, your backup team may stay within eyesight of the entry team, in full CPC and on SCBA air, or your backup team could wait just outside the HOT Zone with their suit half on and ready to deploy. This is more than just a "Backup Team" and while some of the concepts are similar, it is far different than a firefighting RIT. The best practices haz mat program continuum includes a Rescue Team for decontamination and suit removal before handing the victim off to EMS. Medical intervention may need to start before the Entry Team member is out of the suit in order to have a successful rescue. Hot Zone Maydays are rare, but you must train these best practices to perform in an emergency. Videos of MAYDAY

training will stress safe techniques for removing a downed member and getting that individual out of the suit. Learn best practices ideas to take back to enhance your team's capabilities. This workshop will include one hour of classroom to present concepts and the remainder of the class will be practical exercises in simulated scenarios.

Rick Emery, Jeff Zientek, and Darrell Wiseman

Limited to 25 Students

A7 "Chemical and Physical Properties for Risk Based Response – Interactive Experience"

(8 hours) Off Site at Harris County Fire Training Facility

Hazards, risks, and consequences during this highly interactive class, will help participants understand the significance in using chemical and physical properties to assess hazards encountered at hazardous materials incidents, apply physical and chemical properties to manage risk during hazardous materials incidents and understand consequences of how things can go wrong. During this lecture, flash point, flammable range, boiling point, vapor pressure, auto ignition, temperature, molecular weight, vapor density, and solubility will be demonstrated. The lecture will also demonstrate the properties of liquified compressed gasses as well as cryogenics. These high-energy fast-paced demonstrations will leave the audience/students with a keen awareness of street smart chemistry of hazardous materials and how to apply physical and chemical properties to a risk based response.

Brian Ramsey

Limited to 25 Students

A8 "Houston Ship Channel Industrial Tour"

(8 Hours)

This workshop will start with a classroom session at the hotel on Thursday. Then the students will travel to the Houston Ship Channel where they will board one of the Houston Fireboats for an up-close waterside tour of the Houston Ship Channel Industrial complex.

Bill Hand & Richard Lawhorn

Limited to 25 Students

A9 "Product Containment and Transfer" (8 hours) at HFD Jahnke Fire Training Facility

This all-day interactive workshop will focus on product release and control. 1) LPG and related products release and control. 2) Liquid product release and control. 3) Grounding and Bonding for product transfer. 4) Scene safety and Incident Management. Gear needed for students; Safety glasses, close toed shoes. Instructors for the class will all be current Houston Hazmat Team Members.

Captain Buck McClain and Houston HazMat

Limited to 25 Students

A10 "Emergency Response to Ethanol" (8 Hours) at The Woodlands Emergency Services Training Center

This workshop will cover all aspects of responding to ethanol and ethanol blended fuels. The day will start with traveling to The Woodlands Emergency Services Training Center. There the instructors will provide classroom instruction and live demonstrations on; Introduction to Ethanol, Ethanol and Ethanol Blended Fuels, Chemical and Physical Properties of Ethanol and Hydrocarbon Fuels, Transportation and Transfer, Storage Containers and Dispensing Locations, Firefighting Foam Principles, General Health and Safety Considerations, Storage and Preplanning, Recognition and differences between E-10 and E98 Fires, Application of AFFF on both E10 and E98 fires using approved methods, and Application of Next Generation Green Foam on both E10 and E98 fires using approved methods.

John Frost, Glen Rudner, and The Woodlands HazMat Team

Limited to 25 Students

Conference Workshops - Friday, October 21st - 1:00 PM

D1, E1 “Industrial Disasters from Natural to Man-made”

Part 1 of 2

News headlines about spills, fires, and industrial accidents are always sensational. How prepared are you to handle an incident at the local chemical facility? What about the bigger incident that moves outside the facility fence-line and impacts the community or the environment? Incidents at industrial facilities can arise as the result of natural disasters, they can man-made accidents, or potentially man-made with the intention of causing harm. Relying solely on last year’s Tier II form, during an industrial incident, can provide a false sense of security. Whether it’s a chemical release, fire, or other incident it’s important to think about how firefighters are trained to respond. To prepare for and respond to industrial incidents, responders need to use an all-hazards approach that gathers data and facts that are useful to the responders on the ground at the scene. This workshop will discuss natural disasters (such as storms), man-made accidents (such as process failures, fires, spills/releases, and transport accidents) and acts of terrorism. Learn how to assess the hazards and risks in your community so you can figure out what specialized skills and tools you may need to handle an industrial catastrophe safely.

Keith Silverman & Jon Scheibe

D2 “Hazmat by the Numbers”

90 Minutes

Have you ever wondered what the term vapor pressure actually means? In your HazMat technician class, you may have written down the definition, and discussed it, but were you actually taught how to apply this term? Vapor pressure, along with many other “terms” that relate to chemical and physical properties this session focuses, not only on what the words mean, but more importantly how they can impact your health and safety. By truly understanding some simple terms responders can make PPE decisions, isolation and evacuation decisions and determine the severity of the event.

Chris Hawley

D3 “Liquid Oxygen Reactivity and Mechanical Impact”

90 Minutes

In 2021 & 2022, researchers at Utah Valley University studied the reactivity and impact sensitivity of liquid oxygen and asphalt in an attempt to satisfy the mythology and procedures surrounding releases of liquid oxygen and the protentional impact on the emergency response. This presentation begins with a historical perspective on LOx response and includes the data, photos, IR and ultra-high-speed video of the impact and reactivity experiments. The session concludes with an open discussion regarding the way forward in Lox response procedures and the impact this new information may have.

Andy Byrnes

D4 “HazMat Headlines”

90 Minutes

HazMat discussions about air monitoring, decontamination, and referencing have given way to more prominent points like; what is a hazmat medic, or if there is such a thing as a hazmat RIT, or what does the back-up team do or how do you do a quick reference.? These are the questions ripped from headlines of hazmat. Here we will facilitate and debate these and many more hot topics of interest. From Safety Officers, to what is a differential analysis, to the perfect peanut butter & jelly sandwich, come join us for a spirited discussion on current hazmat topics.

Michelle Murphy & Toby Bevelacqua

D5 “Advanced IQ-Beyond Red 1; Identifying the Unknown”

90 Minutes

This training builds upon the knowledge gained from the Above the Line/Below the Line Training System and coaches’ responders through complex scenarios. Through these scenarios students are challenged to think critically and select the correct meters, PPE, and identification instruments to respond to an unknown chemical, biological, or white powder. Utilizing an additional Advanced IQ chart, students will be able to go from a Red 1 (Unknown) to the correct “play”, using the chemical trade name, synonyms, chemical formula, meter readings and/or identification instruments (FTIR/Raman).

Federal Resources

- D6** **“Bad Weather/Winter is Coming”** **90 Minutes**
Yes, winter is right around the corner. Come seek what the forecasters are saying. Better get those warm clothes, generators, and flares ready. Cold weather makes hazmat exciting.
Mark Sloan
- D7** **“Emerging Threats”** **90 Minutes**
The threats to which you must be prepared to respond to have evolved significantly over the past few years. This presentation will focus on the evolving threat (Chemical Warfare Agents, Drugs, Homemade Explosives, Chemical Suicides, Ebola, etc.) and how you, as responders, must evolve in your response capabilities to meet these threats. Recognizing and understanding the threat and the risk that it poses is critical to determining the appropriate response. Using the known facts about the threats (such as solubility, toxicity, degradation pathways, and others), operational response protocols, and technology solutions will be presented for detection, identification, protection from, decontamination, and destruction of threat materials.
Christina Baxter
- D8, E8** **“Incident Response Tools for Everyday HazMat Calls”** **[Part 1 of 2](#)**
Does your organization respond to hazmat calls with limited resources? Then this class is for you. Hazmat training programs teach large scale hazmat incident response using dozens of hazmat techs and complicated ICS systems each with their own clipboards and check sheets. But if it’s not a level A entry... do you use any system at all? We didn’t. So, we developed a scaled back model to use at the types of calls you actually go to, with the resources you’ll actually have on scene. Our system uses a quick response card that guides operations level crews as well as the hazmat team through everyday hazmat calls. This comprehensive and easy to use system includes a scaled back 208, entry form, tech ref flow chart, scene release form, and much more. In the class we will guide you through several tabletop scenarios as a group utilizing the system. We will gladly hand our system and forms to you at the end of class which can be used as templates for you to improve your organizations hazmat response.
Mike Spasev & Matt Housley
- D9, E9** **“GIS – It’s Not Just for Geeks Anymore and Models”** **[Part 1 of 2](#)**
Models have specific uses and trying to use them when they are not the appropriate tool can have unfortunate results. This session will explore if, when and how air models can help you in planning and emergency response. ALOHA, the responders air model, now has empirical to help show you its strengths.....and weaknesses. The Jack Rabbit experiments at Dugway will be explored and related to air model results in ALOHA and the ERG. Case studies from actual releases (experimental and accidental) will be discussed and the reality of the release and model results will be compared and explained. Other modeling products - and their pros and cons will also be discussed as will the basics of air dispersion.
Al Valerioti & Bob Bradley
- D10, E10** **“Street Smart HazMat Safety Officer”** **[Part 1 of 2](#)**
This program is about real-life emergency response to hazardous materials. Haz Mat Responders still have problems with risk and struggle to answer the even the simplest questions like; is it Safe? Unsafe? Or Dangerous? Tactical Safety should be in everyone’s mind from the seasoned veteran incident commander to the rookie emergency responder in the street. It is everyone’s responsibility to have the right attitudes towards. These are lessons that have been learned by emergency responders over the last 45 years the “hard way” in the street. Street Smart Haz Mat gives the student information that they can be use immediately in the street. This is a two-part course to be most effective delivered back-to-back or Part A and Part B.
Mike Callan

Conference Workshops - Friday, October 21st - 3:00 PM

- E1** **“Industrial Disasters from Natural to Man-made”** **Part 2 of 2**
See D1
Keith Silverman & Jon Scheibe
- E2** **“Decontamination Techniques and Procedures Workshop”** **90 Minutes**
Provides an overview of current decon practices used by WMD-Civil Support Teams. Focused on technical decon of hazmat entry team personnel and equipment to prevent exposures and limit secondary contamination. Techniques will be presented for dealing with unknown materials and expand on the compatibility of various approaches for known hazards, based on the latest research.
6th WMD-CST
- E3** **“Compressed Gas Emergency Response Fundamentals”** **90 Minutes**
The 1 ½ hr Compressed Gas ER Fundamentals class will provide the First Responder with a working knowledge of compressed gas physical and chemical behavior that can affect the incident assessment or mitigation plan. The student will get a basic understanding of properties such as:
- Critical Temperature
 - Vapor Density
 - Liquid Density
 - Flammability Limits
 - Boiling Point
 - Vapor Pressure
 - Latent Heat of Vaporization
- And why they might be important during an incident
Eugene Ngai
- E4** **“Combatting EV and Battery Fires”** **90 Minutes**
Rechargeable batteries are quite literally everywhere and have infiltrated every area of our daily lives. From cellular phones, smart watches and headphones to laptops, E-readers and tablets. Everyday, we're now seeing EV fires in scooters, passenger vehicles and even mass transit.
Josh Fowler & Greg Kelly
- E5** **“Put It Out or Let it Burn”** **90 minutes**
When gasoline tankers go up in flames, we are faced with some difficult decisions. It's hard to be a hazmat hero in 2022 when the right path seems so narrow and subjective. Let's discuss the basics of gasoline tanker trucks and things to consider when it's your decision on whether or not to let 'em burn.
Richard Meehan
- E6** **“What Do you Know? The HazMat Quiz Show”** **90 Minutes**
This program reviews knowledge of hazardous materials in a game format. Participants will form teams and participate for prizes and bragging rights, demonstrating their knowledge and problem-solving abilities related to products, containers, hazards, and response.
Dave Donohue
- E7** **“Not Just Another Gas Leak”** **90 Minutes**
In this class we will discuss: approaching the scene, what do you need to consider, monitoring or detecting, is there a Safety Officer, and wind direction/speed. PPE, full bunker gear or PBI coveralls, the corrosion properties of Mercaptan and what does it do to PPE. Accountability of ALL the gas, where has it gone, how much has escaped prior to our arrival. Static electricity, how much is out there, how much do we as humans produce and discharge, how do we discharge other static electricity, what is causing it, what makes it worse

or better? Safety for responders, what do we need to protect us if we are "going into the hole", why do we use this? Explain the gas grid, how does it come from the supplier to the resident. Causes of gas leaks, mitigation of the leak, how are we going to stop it and make the area safe until the gas company arrives to fix the leak and start gas flow again.

Tony Janke & Bill Hageman

- E8** **"Incident Response Tools for Everyday HazMat Calls"** **Part 2 of 2**
See D8
Mike Spasev & Matt Housley
- E9** **"GIS – It's Not Just for Geeks Anymore and Models"** **Part 2 of 2**
See D9
Al Valerioti & Bob Bradley
- E10** **"Street Smart HazMat Safety Officer"** **Part 2 of 2**
See D10
Mike Callan

Conference Workshops - Saturday, October 22nd - 8:00 AM

- F1** **"The Heat is On"** **90 Minutes**
For "The Heat is On," I have taken thirty years of Emergency medical experience, coupled with industrial knowledge and Fire service to develop a training which relates to a silent but dangerous plague. This training will discuss a topic that is rarely talked about and/or taken seriously. Across the United States, temperatures can cause life altering situations within the workforce. Heat-related emergencies present as simple as a cramp but can quickly progress into a stroke complex. A simple question of body mechanics and physiological functions of the human body could save a life. Why are we putting our firefighters, our coworkers and family, at risk for devastating consequences? *The Heat is On* was developed to bring awareness to a simple process that rarely gets discussed. Stages of this emergency and safety cultures will be combined with the understanding of how PPE helps when used properly; but, can also be dangerous if full safety considerations are not understood. The training is broken down into different stages of knowledge including: understanding the human body and its processes, rehabilitation (the how and why), solutions (stopping and reversing the heat stressors), engineering controls and safety concerns.
Timothy Crockett
- F2** **"So You're the New HazMat Officer, Now What?"** **90 Minutes**
You have now been promoted to the hazmat officer now what? In this program we will discuss what you will need to know as the Hazmat Officer. We will discuss how you may need to handle different types of personnel or shift crews. Will Discuss types of incidents and what resources you may need and who to call. What training your agency has for new officer and tips on being successful.
Butch Hayes
- F3, G3** **"Creating That Incident Action Plans/Support Operations & Recovery"** **Part 1 of 2**
This program consists of lecture, small group activities, and case studies to support the goal of developing an IAP to support incident operations and cost recovery. Attendees will work through the steps of the "Planning P" to develop objectives, tactics, and tasks to manage the incident and aid the cost recovery documentation process. Participants will also brief out a complete IAP.
Dave Donohue

- F4** **“Clandestine Drug Labs Case Studies”** **90 Minutes**
The course will discuss the need for training and forging relationships between law enforcement narcotics officers and regional Haz-Mat team members and the benefits each appreciate during clandestine lab investigations. It will cover issues uncovered through investigations and evidence collection and how a large team-based response to clandestine lab incidents has been created between Law Enforcement and Regional HMRT. The presentation show case past regional clandestine lab investigations create extremely dangerous environments which Law Enforcement members do not have the training or experience to properly mitigate. Also, Regional HMRT do not have properly trained or experienced members to investigate, collect evidence, or testify in a criminal proceeding.
Bear Wilson and Texas DPS Criminal Investigations Division
- F5** **“Common Sense Isn’t”** **90 Minutes**
In the world of safety and hazardous materials response in particular we hear the phrase “use common sense” quite a bit. The problem with “common” sense is that it’s only common to the person whose sense is in question. Certified Safety Professional Monique Lewis takes a humorous yet practical look at the pitfalls of relying on common sense and will then show participants how to develop a consistent, effective, and relevant training program that will help bring everyone’s sense to the same level so that it can indeed be considered “common”.
Monica Lewis
- F6, G6** **“Railway Disasters”** **Part 1 of 2**
This interactive workshop examines the cause and effect of a few of the significant railcar related disasters such as MacDona, TX, Lac Megan,c, Quebec, Dubuque, IA, Minot, ND, and more. We'll look at railcar construction designed to limit these effects on the community and the environment. We will examine the consequences for the community and department, readiness issues, SOPs & SOGs, lessons learned, available railroad resources, common response problems, public protective actions, and the importance of pre-planning. This workshop is designed for the hazmat responder who wonders, "What if this happens tomorrow in my town?"
Andrew Byrnes
- F7** **“What’s in That Cylinder?”** **90 Minutes**
Compressed gas cylinders are sometimes found lying around, sometimes in weird locations. Junk yards, abandoned building, washed up after a flood, etc. Of course, HazMat is called to deal with them. How do you do an assessment? Are they dangerous? What do they contain? What do I do with them? This presentation will review examples of cylinder assessments on cylinders found abandoned without any identifying markings or labels. It will also present a worksheet that can be used to aid in the assessment and help to narrow down what they could contain. It will also look at cylinder and valve features that are unique to certain groupings of gases.
Eugene Ngai
- F8** **“Applying FTIR to Identify Unknown Gases & Vapors** **90 Minutes**
Jim Cornish
- F9, G9** **“Unstable Materials, Monomers, and Organic Peroxides”** **Part 1 of 2**
Energy is always dangerous at a hazardous materials emergency. After explosives, unstable materials are some of the most reactive and unpredictable situations responders can face. Unstable materials may decompose, condense, polymerize or self-react. Temperature, shock, light, contaminants, incompatibles, or the loss of inhibitor may trigger an uncontrolled exothermic reaction. Monomers, when uncontrolled, may undergo runaway polymerization reactions. Organic peroxides inherently possess two or even three sides of the fire triangle and as a result may rapidly, exothermically, and sometimes explosively, disintegrate. Peroxidizable chemicals are capable of reacting with oxygen in the air to form potentially explosive peroxides. There is no single hazard class for unstable materials because they often present multiple

hazards. Part 1 of this will be an awareness level with a focus on understanding unstable materials, the risks associated with them in an emergency, and transportation and storage. Part 2 of the class will be technician level with the focus on the chemistry of unstable materials and tactics for handling unstable materials during an incident.

Keith Silverman, Bill Cullen, & Michael Callan

F10, G10 **“Field Detection of Pesticides: Suicides, Seizures, and Sickness”** **Part 1 of 2**

Pesticides are becoming a more prevalent problem for hazardous materials responders. Historically organophosphate pesticides have been the culprit in medical emergencies and suicides. Recently there has been a surge in new pesticide development due to the continuous cycle of regulation and restrictions. Pesticides on the market now include carbamates, pyrethroids, neonicotinoids, and others. Often pesticides affect the nervous system, but in different ways. Identification of the pesticide is critical to patient treatment and keeping responders safe. We will discuss many recent incidents involving pesticide exposures and gather the lessons learned. We will examine the identification tools we have in our toolbox to detect and identify pesticides at a range of concentrations. We will look at both the acute and chronic hazards of pesticide exposure to the public and first responders and come up with strategies and tactics, so we are prepared to handle the incidents involving pesticides we will undoubtedly be dispatched to.

Chris Weber

Conference Workshops - Saturday, October 22nd - 10:00 AM

G1 **“HazMat Response to Odors”** **90 Minutes**

HazMat teams respond to reports of odors all the time, and many of these calls can be challenging. This session focuses on how to determine the cause of the common odors, the unusual odors, the weird odors. There are true sick buildings and there are buildings with a chemical problem, one can be easily solved by a response team, the other requires more substantial work. This session will cover examples of both and provide strategies and case studies to handle these types of situations.

Chris Hawley

G2 **“HazMat Response After the Storm”** **90 Minutes**

This session shall provide an excellent hazard and risk assessment overview for conducting ESF 10 operations, handling hazardous materials investigations, releases, and container recovery and characterization following significant and/or major storm damage.

- Participants will understand the need for building valuable relationships and partnerships when handling hazardous materials responses after a significant and/or major weather event.
- Participants will understand hazard and risk considerations when handling unidentified containers and/or released substances.

Greg Socks & Jason Waterfield

G3 **“Creating That Incident Action Plans/Support Operations & Recovery”** **Part 2 of 2**

See F3

Dave Donohue

G4 **“Oxidizers and Swimming Pool Chemicals”** **90 Minutes**

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.

Tom Murdock

- G5** **“HazMat: Just What Do I Need”** **90 Minutes**
The session will provide helpful tips on how to use NFPA 475 to organize, manage, and sustain a HazMat/WMD response program designed for an effective response aimed at minimizing risk. The session will explore a program framework beginning with the applicable laws, regulations, consensus standards, and guidance documents. It will also offer some guidance for conducting a jurisdictional risk assessment, planning, resource management, staffing, training, health and medical issues, financial management, program influences, and developing relationships.
Tony Mussorfiti & Bob Royall
- G6** **“Railway Disasters”** **Part 2 of 2**
See F6
Andrew Byrnes
- G7, H7, J7** **“The New NFPA 470 Standard: 3 Part Workshop”** **Part 1 of 3**
The Incident Commander is the individual responsible for all activities and operations during a hazardous materials incident. The Incident Commander develops the incident objectives and makes the final decision with regards to the recommended strategic modes of operation (nonintervention, defensive, offensive). Estimating outcomes with recommendations to mitigate the incident is required along with knowledge of applicable regulations. Concise verbal and written communication skills are essential to be a successful Incident Commander.
Rick Emery, Jeff Zientek, and Darrell Wiseman
- G8** **“Decon Selection”** **90 Minutes**
Decon sounds so easy and it is if you don’t know your stuff. This workshop will delve into decon research and what we have learned. It’s no longer just a dish soap wash and rinse.
Christina Baxter
- G9** **“Unstable Materials, Monomers, and Organic Peroxides”** **Part 2 of 2**
See F9
Keith Silverman, Bill Cullen, & Michael Callan
- G10** **“Field Detection of Pesticides: Suicides, Seizures, and Sickness** **Part 2 of 2**
See F10
Chris Weber

Conference Workshops - Saturday, October 22nd - 1:00 PM

- H1** **“The Kobayashi Maru”** **90 Minutes**
The Kobayashi Maru has taken hazmat education into the gaming arena. It is a practical approach towards knowledge-based skills. This presentation is built around the idea of immersing the student into the context of an incident. By doing such, you have given the student a platform by which they can investigate new techniques, hone old ideas and expand their knowledge base. The concept simply teaches response options through contextual applications i.e. scenario and discussion which will bring forth new ideas and reinforce old skills.
Michelle Murphy & Toby Bevelacqua
- H2** **“Put It Out or Let it Burn” (Offered Twice)** **90 minutes**
When gasoline tankers go up in flames, we are faced with some difficult decisions. It's hard to be a hazmat hero in 2022 when the right path seems so narrow and subjective. Let's discuss the basics of gasoline tanker trucks and things to consider when it's your decision on whether or not to let 'em burn.
Richard Meehan
- H3** **“Developing Tactical Worksheets/Risk-Based Approach** **90 Minutes**
This session provides information on using the risk-based approach in the development of tactical worksheets to support effective decision-making and enhance a safe and effective response. The expanding mission for emergency responders drives the need for examining both current and proposed concepts of operations. As well, as the development of various tactical and operational procedures to meet the anticipated demands created by a HazMat/WMD event that has distorted the established division between defensive and offensive response operations. The evolving mission for emergency response agencies drives the need for a review of operating guidelines to respond safely and effectively. Participants will be shown how to implement procedural response objectives that will keep the initial response on track. Instructors will illustrate the effectiveness of using pre-incident designed tools and response documents that will assist responders in adapting to ongoing and often unpredictable incidents.
Andrew Byrnes & Tony Mussorfiti
- H4** **“Training the New HazMat Technician 2.0”** **90 Minutes**
Now that the new hazmat tech arrives to the team now what. They may have just finished a hazmat technician class or it may have been several years ago. So how can we bring them up to speed. We will discuss the different ways to train the new hazmat tech such as task books, skills testing, hands on training. In this class we will look at different agencies that have programs in place for the training of a new hazmat tech member.
Butch Hayes
- H5** **“The Colorimetric Conundrum”** **90 Minutes**
Confused by colorimetric tubes? Do they work – not work? Are they accurate? Can they really solve my problem? Come to this session and you will learn the answers and become a Colorimetric Guru. This session will cover the science, use, care and feeding of colorimetric tubes.
Chris Hawley
- H6, J6** **“Inside the Fenceline: Response to Emergencies at Chemical Facilities”** **Part 1 of 2**
Emergency responses to chemical plants that produce, and store potentially hazardous chemicals can seem daunting and challenging. Typically, these are not your bread-and-butter calls. As a first responder, you may not have the familiarity, experience, training and/or equipment to feel you can safely and effectively handle them. This session will better prepare responders to handle incidents “inside the fence line” of chemical facilities. We will begin by learning how to size up a chemical facility and then learn about some common activities, processes and hazards that can be found “inside the fenceline”. Lastly, we will cover strategy, tactics, and tips for handling incidents and rescues involving potentially hazardous materials.
Keith Silverman & Bill Cullen

- H7** **“The New NFPA 470 Standard: 3 Part Workshop”** **Part 2 of 3**
See G7
Rick Emery, Jeff Zientek, and Darrell Wiseman
- H8, J8** **“Hold My Matches and Watch This”** **Part 1 of 2**
A highly interactive demonstration of the physical and chemical properties of flammable liquids and flammable gases! During these lessons, 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! This session involves live interaction and hands-on concepts.
Brian Ramsey
- H9** **“Utilities are IDLH (Immediately Dangerous to Life and Health)”** **90 Minutes**
Responding to emergencies are present, are some of the common emergencies we face IDLH situations. Haz Mat responders, especially technicians are trained to recognize Risk. Remember Risk is “any situation, atmosphere or condition that is fatal, can permanently injure or interferes with the person’s ability to escape.” Mike Callan has been training responders to the IDLH conditions and the risks of flammables products like Propane, Natural Gas and especially the “Dangerous” conditions of electricity. Hazardous material responders are risk analyzers in a world of response risk takers. You as the Hazardous Material technician are the first step to protecting your personnel. Taking this session will help you stay alive around IDLH conditions exist when utilities are present.
Mike Callan
- H10** **“Battery and Store Energy Emergencies”** **90 Minutes**
This course prepares responders to conduct risk-based response to battery emergencies for multiple types of batteries including Lithium-Ion (Li-Ion). The course covers batteries found in transportation including passenger vehicles, ground transport, air and sea shipping, as well as residential, commercial, and industrial settings.
Christina Baxter

Conference Workshops - Saturday, October 22nd - 3:00 PM

- J1** **“Confined Space: HazMat or Technical Rescue”** **90 Minutes**
Confined spaces offer unique challenges to rescue units because all too often the process for preparing for a confined space entry is simply an exercise in checking regulatory boxes. Workers are trained in the basic “rules” they must follow, but rarely have an in depth understanding of the true nature of the hazards they face. When working in a permit required confined Space, OSHA allows a local fire department to be listed as the standby rescue. How many times do you think your department has been listed on an entry permit without you being notified? If your department is notified, is it the rescue squad, the HazMat team, or both that are put on standby and what information do you obtain from the entry supervisor? In case studies where rescuers are injured during confined space rescues, almost without exception the root cause is a lack of knowledge that a hazardous material is present or lack of understanding of the behavior of hazardous materials in the space. Certified Safety Professional (CSP) Monique Lewis will discuss some such case studies and scenarios she has encountered as a safety consultant in various industries. You’ll receive information beyond general confined space awareness with regard to common hazards and tactics for identifying when hazards exist or have the potential to exist. You’ll gain insight into the general level of knowledge and training received by the average worker which will help you develop outreach strategies and operational policies and procedures geared toward safe and effective customer service for members

of your community who work in and around confined spaces. You'll also gain an understanding of the overlaps and gaps between the OSHA 1910.146 standard and the NFPA 1670 standard.

Monica Lewis

- J2 "Thermal Imaging Cameras (Safety for Firefighters)" 90 Minutes**
This presentation will introduce the uses of infrared technology for fire grounds and beyond. In the detection, the demonstrations and research material will be presented using Bullard, MSI, FLIR and a Scott series TIC camera. I will take a simple approach using my field experience. This, coupled with proven technology, will give insight to how the fire industry can utilize the infrared camera to detect hot spots, seat of fire, and search and rescue to help enhance fire programs. During the presentation, we will examine mock & actual photographs and videos from various places. IR (infrared) imaging technology is the perfect tool for detecting possible hydrocarbon leaks within Fire and/or Hazmat industries. This presentation is intended to give the audience an idea of how IR technology can be beneficial for "in field" uses. Additionally, it will motivate individuals with gaining support through first-hand, in-field experiences. Within the presentation, initial set-up and camera operations will be discussed and conclude with the delivery of high-quality video and still shots which can be used for reports. Also, I will be discussing the abilities to utilize the camera in monitoring and maintaining safety on fire grounds. This class will also utilize the NFPA 1408: Standard for Training Fire Service Personnel In the Operations, Care, Use and Maintenance of Thermal Imagers. This Year we will also introduce Thermal Imaging on the medical side.
Timothy Crockett
- J3 "Back to the Basics Air Monitoring" 90 Minutes**
In this class we will discuss: Basic Monitoring Methods including colorimetric (pH and Colorimetric Tubes), direct reading instruments (Combustible Gas Indicator, Chemical Specific, Photo Ionization Detector), Advantages, use, and limitations on basic monitoring method technology, approach technique, response time, observed results (chemical specific and interferences), Triaging the chemical or source, Interpreting the results The goal of the course is to give the participant an opportunity to troubleshoot (with use and limitations of the monitoring methods), identify if a chemical.
Tony Janke & Bill Hageman
- J4 "First-In HazMat Size-Up" 90 Minutes**
When it comes to scene size-up on the fireground, strategies, tactics, and acronyms are abundant. In HazMat, Ludwig Benner's DECIDE acronym is a great start, but what about the average engine company? How are we training our operations level personnel for HazMat? Because, let's face it, they'll be the first ones on scene.
Josh Fowler
- J5 "All Hands on Deck! How to Manage the Never-ending HazMat Team Logistics" 90 Minutes**
What do you mean those test papers expired in 2018? It's been ages since we trained on the pumps! Our operations crews aren't getting any hazmat training! How does this radiation monitor work again? What classes do we require our hazmat techs to take again? We never have enough hazmat techs on scene! These statements, and many like them, echo off the walls of hazmat fire stations across the country. Whether you're a new firefighter helping organize equipment on the rig, or the hazmat program manager trying to figure out how to make sure your team stays fresh on basic skills, this class is for you! Through trial and error, we've developed practical, easy to use systems to help manage the countless logistical challenges facing any hazmat team that we would love to share with you! We'll cover what's worked for us from budgeting and staffing to labeling equipment, managing expiring supplies, performing equipment maintenance/training, fostering relationships with partnering organizations, developing hazmat training plans for entire fire departments and much more! Come learn from our mistakes and share what's working for you in this practical and applicable class designed to give you some tools to help you solve problems that plague every hazmat team! tools to help you solve problems that plague every hazmat team!
Mike Spasev & Matt Housley

- J6** **“Inside the Fenceline: Response to Emergencies at Chemical Facilities”** **[Part 2 of 2](#)**
Se H6
Keith Silverman & Bill Cullen
- J7** **“The New NFPA 470 Standard: (3 Part Workshop)”** **[Part 3 of 3](#)**
See G7
Rick Emery, Jeff Zientek, and Darrell Wiseman
- J8** **“Hold My Matches and Watch This”** **[Part 2 of 2](#)**
See H8
Brian Ramsey
- J9** **“LNG Transportation and Response for First Responders”** **90 Minutes**
This session will address current methods of transporting LNG, challenges that first responders may encounter, and tactical recommendations for handling an active release and/or fire. Participants will receive and understand the current methods of LNG transportation and challenges that first responders may encounter when handling a release and/or fire involving LNG.
Greg Socks & Jason Waterfield
- J10** **“Environmental Crimes Case Studies”** **90 Minutes**
The course will discuss the need for training and lower levels and how a properly trained Haz-Mat team that is observant can be a large asset. It will cover issues uncovered through the investigation and holes in coverage and how as a result a large team-based response to Haz-Mat at incidents has been created between HPD EIU and HFD HMRT. It will show how incidents can continue to occur without some type of enforcement action being taken and the need for communication across all levels of fire and police.
Bear Wilson and Houston Police Environmental Investigations Unit