

Propane Presents: First Responders Safety & Training

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**International Association of
Fire Chiefs (IAFC)**

**Propane Education &
Research Council (PERC)**

About IAFC



Since 1873, the IAFC has provided a forum for fire and emergency service leaders to exchange ideas, develop professionally and uncover the latest products and services available to first responders.

International Association of Fire Chiefs (IAFC) has over 12,000 members from more than 30 countries.

About IAFC



Mission:

To provide leadership to current and future career, volunteer, fire-rescue, and EMS chiefs, chief fire officers, company officers, and managers of emergency service organizations throughout the international community through vision, information, education, services, and representation to enhance their professionalism and capabilities.

About PERC



Propane Education and Research Council (PERC)

PERC was authorized by the Propane Education and Research Act of 1996 and established through a propane industry-wide referendum.

The Propane Education & Research Council is a nonprofit that provides leading propane safety and training programs and invests in research and development of new propane-powered technologies. PERC is operated and funded by the propane industry. PERC programs benefit a variety of markets, including transportation, agriculture, commercial landscaping, residential, and commercial building.

IAFC and PERC Partnership



Propane Emergency Courses

Why This Matters

Incidents with loss of life and damage

- Lack of coordinated trainings
- Inadequate standardized response protocols
- Lack of Unified Command
- Communication challenges

Mitigation through unified training will save lives

- Unified Command
- Shared concept of operations
- Shared terminology
- Risk-based decision making

Propane Emergency Courses

Case Studies

Ghent, WV (2007)

- Four deaths; 2 FF, 2 industry technicians
- Lost the structure

Contributing Factors

- No Unified Command
- Inadequate Hazard Identification and Risk Assessment
- Delayed protective actions
- Communication; information sharing
- Training gaps; response missteps

Case Studies

Farmington, ME (2019)

- One Firefighter death
- 6 FFs, and a maintenance worker were injured
- Inadequate coordination

Contributing Factors

- Inadequate Hazard Identification and Risk Assessment
- Impetus for PERC to work with IAFC
- Catalyst for joint training

Propane Emergency Courses

Case Studies

Sterling, VA (2024)

- One Firefighter death
- 13 injuries, including firefighters
- Lost the structure
- Involuntary manslaughter

Contributing Factors

- Incident command
- Personnel accountability
- Inadequate Risk Assessment
- Proper PPE usage

Propane Emergency Courses

Propane

Description

Versatile, clean-burning fuel used daily

Uses: Residential – Commercial –Agricultural

- Home heating, cooking, laundry
- Outdoors: Grills, fire pits, pools
- Generators
- Manufacturing
- Drying of crops, greenhouses
- Vehicles: passenger, commercial trucks, forklifts

Propane Emergency Courses

Propane

Identification

- Occupancy
- Markings
- References:
 - **ERG - 115**
 - **NIOSH Pocket Guide - 263**
 - **CAMEO Chemicals**
 - **SDS**
 - **Tier II Reports**
- Monitoring
 - **Detection**
 - **Operational**

Propane Emergency Courses

Propane Chemical/Physical Properties

- Liquified, Colorless, odorless, **non-toxic**, flammable hydrocarbon gas
- Odorized with ethyl mercaptan
- Complete combustion = water + Carbon Dioxide
- Incomplete combustion = CO
- B.P. - 44 deg F
- Expansion ratio – 270:1
- RGasD: 1.55
- LFL/EFL: 1.8% - 8.4% (2.1%-9.5% NIOSH)
- VP: 8.4 atm
- IP: 11.07

Propane Emergency Courses

Propane

Risks

- Damaged appendages
- Leaks
- Overfilling
- Accumulation (V.D.)

Instruments/Equipment

- Combustible Gas Indicator (CGI)
- Photo-Ionization Detector (PID)
- Thermal Imaging Camera (TIC)
- Handlines
- Grounding and Bonding
- Transferring
- Flaring

Propane Emergency Courses

Current two-year project 2025-2027 (PERC)

1. Update the existing training programs:
 - a) Propane Industry Education,
 - b) Introduction to Propane
 - c) Training for Propane Emergencies
 - d) With a hands-on component
2. Improve propane safety, with emphasis on Unified Command.
3. Develop, pilot, and implement multiple propane education programs: online learning and in-person training.
4. Develop and implement a nationwide outreach and amplification campaign supported by key performance indicators; collaboration with IAFC

Propane Emergency Courses

PERC and the IAFC

Propane Emergencies Programs:

2 Online Courses, on IAFC Academy and PERC LMS:

- Propane Emergencies for Mission Specific Responders: Awareness
- Propane Emergencies for Mission Specific Responders: Operations

An 8-hour in-person class with a hands-on training session.

- A fire service certification agency (Pro Board) approved the IAFC accreditation for NFPA 470 Specialist B & C.
- Mission-specific

Propane Emergency Courses

PERC and the IAFC

Propane Emergencies Programs:

IAFC Propane Safety Leadership Townhall Series

- Providing seasonal propane safety initiatives
 - **Winter:** Managing Propane in the cold & Response Strategies
 - **Spring:** Agriculture & Post-Winter Assessments
 - **Summer:** Managing Propane in the Summer & Wildfires
 - **Fall:** Harvest, & Preparedness Planning
 - **Year-Round:** Building Readiness & Complex Propane Management



Marketer and First Responder Relationship Facilitation

Propane Industry & Fire Service Facilitation

Grassroots level of involvement to educate the first responder community.

Get to know them, and have them get to know you, before an incident occurs

Building relationships helps!

Propane Industry & Fire Service Facilitation

Propane marketers are engaging the fire service.

- Proactive training partnerships
- Safety education programs: presentations and bulletins
- Collaboration on emergency protocols, common terminology, and instructor-led trainings
- Facility and equipment walk-throughs
- Development of training and outreach programs

Marketer and First Responder Relationship Facilitation

Focus: training responders + industry together

- National impact
- NFPS 470, NFPA 58, and OSHA 1910.120
- Online and in-person instructor-led
- Pro-Board Certification
- Advancement of propane emergency response preparedness

Marketer and First Responder Relationship Facilitation

- Walkthrough of their plant(s) with first responders; Familiarity with each specific location.
- Promote the two Propane Emergencies courses on the International Association of Fire Chiefs (IAFC's) website for First Responders to complete online.
- A secondary audience marketers can take this education to Community Colleges that have fire schools.
- State Associations and marketers could work together to host a booth at Fire Association Shows to get in front of other fire association representatives.
- Create a propane emergency response committee in states that have companies that build and service bulk plants and bobtails.

Resources (PERC)

- Propane Emergencies Marketer Outreach Toolkit
- Propane Emergencies Program Facilitator's Presentation
- Propane Emergencies Program Facilitator's Guide
- Two Propane Emergencies Courses
- Propane Emergencies Scenarios
- Consumer Safety Materials
 - Important Propane Safety Information for You and Your Family
 - Small Cylinder Safety Brochure
 - Propane Safety Booklet
 - Scratch & Sniff Mailer
- Pro-Board Prep
 - First Responders must pass the two Propane Emergencies courses on IAFC's website,
 - Instructor-led Pro Board class with hands-on training and exam.



IAFC Academy Online Courses

IAFC Academy: *Propane Emergencies for Responders* *Awareness-level*

First responders are likely to witness or discover a release
Propane characteristics, risks, regulations, and initial actions
Approximately 2 hours

Propane Awareness Training for Specialist Employees *Operations-level*

Hazmat technicians and responders
Approximately 3 hours



Host Training: Propane Emergencies Training for **Awareness** Mission Specific Responders

Propane Emergencies: *Awareness Mission Specific Responders*

- Builds foundational knowledge to recognize propane characteristics, risks, regulations, and safety
- Prepares individuals who are likely to witness or discover a propane release to initiate the appropriate emergency response actions and to notify the proper authorities.
- Props
 - Hydrometer
 - Forklift cylinder cutaway
 - 20lb cutaway cylinder
 - Combustible Gas Indicator (CGI)
 - Propane flaring kit

Resources

- In-person Propane Emergencies Training for Awareness Mission Specific Responders PowerPoint
- In-person Propane Emergencies Training for Awareness Mission Specific Responders “student” documents
- Propane Emergencies Marketer Outreach Toolkit
- Propane Emergencies Program Facilitator’s Presentation
- Propane Emergencies Program Facilitator's Guide

Resources Continued

- Propane Emergencies Scenarios
- Consumer Safety Materials
- Pro-Board Prep Information
 - <https://theproboard.org/faq/>
- An email template for marketers to use/customize for promoting the in-person classes.

Why Pro-Board Matters

- Ensures standardization
- Evaluates knowledge, skills, and abilities
- Validated certification
- Builds national consistency



Host Training: Propane Emergencies Training for **Operations** Mission Specific Responders

Propane Emergencies: *Operations Mission Specific Responders*

- Provides specific knowledge about handling propane-related emergencies for fire service personnel who respond to releases or potential releases of hazardous substances as part of the initial response to the site to protect nearby people, property, and the environment from the effects of the release.
- Pro-Board has approved the IAFC accreditation for NFPA 470 Propane Specialist B & C courses.

Propane Emergencies *Operations* Mission Specific Responders

- Reimbursement of fuel provided for live burn at the delivered cost
- Props
 - Hydrometer
 - Forklift cylinder cutaway
 - 20lb cutaway cylinder
 - Combustible Gas Indicator (CGI)
 - Donate to the fire departments after training
 - Propane Flaring kit
 - Leak mitigation props
 - Calibration canister
 - Donate to the fire departments after training

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Key Takeaways

Train together

Respond together

Communicate effectively

Effective Unified Command

Successful resolution

WHAT'S NEXT?

- Get involved with your State Association's Partnership Program
- Take the Propane Emergencies training in the PERC Learning Center and/or on the IAFC Academy website
- Reach out to your local fire department, share assets, and schedule a walk-through
- Communicate your emergency response capabilities with your local fire department
- Get to know your LECP and SERC

Questions?

Preparedness is coordination.

Coordination saves lives.

It begins BEFORE the crisis

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