

# IAFC

INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

## Rail Safety: Transportation of Crude Oil and Ethanol

Statement of

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Vice-Chair IAFC Hazardous Material Committee

*presented to the*

NATIONAL TRANSPORTATION

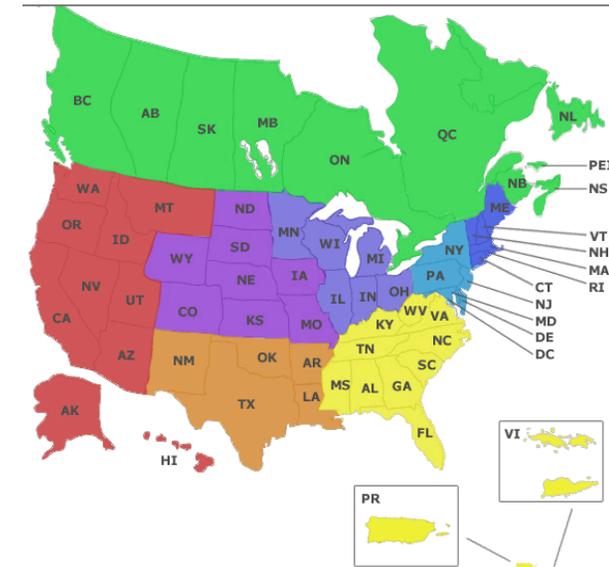
SAFETY BOARD

April 23, 2014



[WWW.IAFC.ORG](http://WWW.IAFC.ORG)

- Founded in 1873 (140 years old)
  - Result of The Great Chicago and Boston fires
  - 9<sup>th</sup> oldest association currently operating in the U.S.
- 12,000+ members; mostly in North America
  - Company and Chief Officers
- Federation
  - 8 divisions
  - Membership includes national and regional affiliation
- 8 special interest sections
- 12 working committees



## The IAFC Hazardous Materials Committee:

- Serve as subject matter experts regarding hazardous materials and dangerous goods.
- Monitors and identifies trends with regard to emergency response to hazardous materials incidents both nationally and internationally.
- Advises the IAFC Board of Directors on policy issues relating to hazardous materials response.



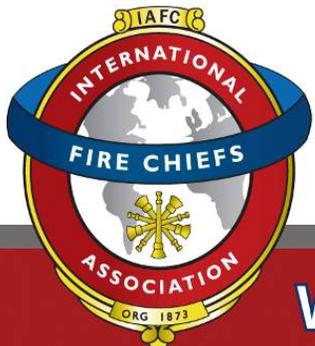
## Challenges:

- The amount of crude oil being transported exceeds emergency response capabilities.
- Low frequency / high consequence incidents.
- Lack of awareness and preparation.
- Inadequate time and or funding to conduct the necessary planning and dedicated training.
- The need for specialized resources when responding to incidents.



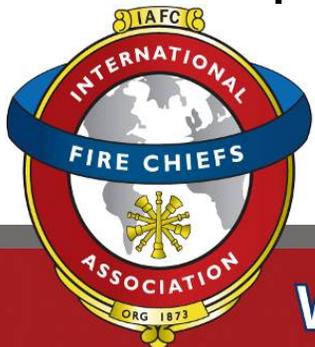
## Needs:

- Increased community awareness and planning:
  - LEPC involvement.
  - Hazardous Materials Commodity Flow Studies
- Industry engagement.
- Cooperative relationships.
- Adequate and properly positioned resources.
- Adaptive emergency response training resources:
  - Based on NFPA standards (NFPA 472)
  - Hands on.
  - Blended learning (classroom / web-based).



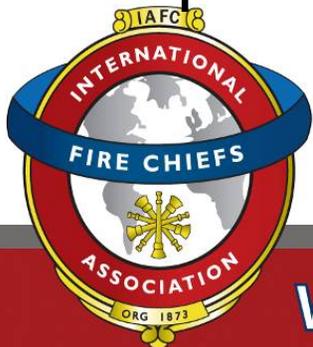
## Solutions:

- Increased awareness within affected communities and emergency response agencies.
- Adequate community and agency planning.
- Established industry relationships *before* the incident.
- Risk based response approach.
- Proper funding and support for training and response.
  - Industry support.
  - Federal programs (ex. HMEP).



## End state:

- Communities are properly prepared.
- Industry is engaged and supportive.
- Emergency response agencies are more aware and better trained for the risks and hazards.
- Risk based response systems are in place and properly supported.
- Appropriate resources are allocated and properly positioned.





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INTERNATIONAL ASSOCIATION OF FIRE CHIEFS  
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Good afternoon, Chairman Hersman and members of the National Transportation Safety Board (NTSB). I am Assistant Chief Rick Edinger of the Chesterfield County, Virginia, Fire and Emergency Medical Services (EMS) Department. My fire service experience began in 1973 as a volunteer firefighter and I have served as a career firefighter in central Virginia since 1990. I have been a member of a municipal fire department hazardous materials response team since the early 1990s. I currently serve as the vice-chair of the International Association of Fire Chiefs' (IAFC) Hazardous Materials Committee. I also serve as immediate past president of a statewide association of hazardous materials responders and industry representatives.

I am here today on behalf the IAFC, which represents the leadership of the nation's fire, rescue, and emergency medical services including rural volunteer fire departments, metropolitan career departments, and suburban combination departments. I thank you for the opportunity to share the perspective of the leadership of America's fire and emergency services about the challenges that the nation faces in ensuring the safe transportation of crude oil, ethanol, and other hazardous materials.

The IAFC desires to bring positive ideas to this forum. The fire service continues to see related concerns to the various hazards that face our communities nationally. Crude oil poses new challenges to responders, but these are comparable with ethanol, pipeline emergencies, and other hazardous materials incident responses. The key to a safe and effective emergency response is based on the planning analysis of Strengths, Weaknesses, Opportunities, and Threats (SWOT). Each community has a local level of responsibility and duty to conduct this assessment for the safety of their citizens. The industries that produce or transport crude oil, ethanol, and other hazardous materials that travel through, or are stored in, a community have an obligation to reduce risks by working with all local officials to minimize the potential harm from these "low frequency, high hazard, high traffic" incidents.

The transportation of crude oil has grabbed national headlines as the nation experiences an energy production boom. States such as North Dakota and Montana are experiencing an increased production of crude oil from the Bakken Formation, which then must be transported across the country. Based on congressional testimony by the Association of American Railroads (AAR), there has been a dramatic increase in the transportation of crude oil using the national rail system. According to AAR, in 2008, U.S. Class I railroads transported 9,500 carloads of crude oil. This amount has skyrocketed to nearly 234,000 carloads in 2012 and was an estimated 400,000 carloads in 2013. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), the overall volume of crude oil moving by rail has quadrupled in less than a decade.

As the events last year in Lac-Mégantic, Quebec, and Casselton, North Dakota, demonstrated, accidents can happen as crude oil, ethanol, and other flammable liquids are being transported. Concerns have been raised that crude oil from the Bakken fields has a lower ignition point. In addition, ethanol has different chemical properties than other flammable liquids and some locomotives are now using liquefied natural gas, which also acts differently from other fuels when it catches fire. All of these changes have added complexities to hazardous materials response considerations. The fire departments that have jurisdiction through the areas which these products travel must now be prepared for the various fuel properties and the various modes of transportation. This preparation includes proper planning and training to respond safely and

effectively when there is an accident. However, many of these same fire departments are composed of volunteers located in rural areas, and they do not have adequate time or funding to conduct the necessary planning and dedicated training, let alone the specialized resources needed for responding to incidents involving these new types of fuels.<sup>1</sup>

It is also important to note that fire departments that do not have rail lines in their jurisdictions may be part of a mutual aid system, and they may be called upon to respond to a rail incident in a neighboring community. These departments also need to have the same hazardous materials planning tools and training competencies.

Fire departments face challenges in planning for the shipments of hazardous materials through urban, suburban and rural communities across the nation. It can be a daunting task for communities to complete analyses of commodities in high traffic areas that are considered low frequency and high hazard. Commodity flow studies provide a vast amount of information that is not easily understood. The Transportation Research Board's Guidebook for Conducting Local Hazardous Materials Commodity Flow Studies provides a template for planners. But communities are not funded to conduct these types of research projects to gather the pertinent information and build an emergency response plan. Industry needs to provide direct assistance for this endeavor.

As part of the planning process, industry, community planners and first responders must use the Local Emergency Planning Committee (LEPC) process to identify and plan for potential incidents in their community. The IAFC acknowledges some great efforts between communities and industry, but there is no consistency across America. The recent incidents involving crude oil and ethanol have identified that the variety of hazardous materials has changed and that industry should provide a greater emphasis on community preparedness. A need for a national standardized process that maximizes resources and minimizes cost to communities is required. An example of what is needed is a template for creating an emergency plan built by industry and supplied to communities that outlines the potential hazards and what industry will provide for the emergency response.

As the news reports from recent crude oil incidents have highlighted, local fire departments must be adequately trained to respond to flammable liquid incidents. Training must be centered on a community's identified risks, hazards, and needs. The National Fire Protection Association's (NFPA) *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents* (NFPA 472) and the Occupational Safety and Health Administration's (OSHA) standard for *Hazardous Waste Operations and Emergency Response* (29 CFR 1910.120) provide core competencies for five established levels of hazardous materials training. The IAFC believes that both the first-due fire departments, regional fire departments and response teams should be trained at a minimum to the Operations level of NFPA 472 and OSHA

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<sup>1</sup> On January 21 and 23 2014, the NTSB recommended that crude oil shipments be re-routed away from major population centers. The IAFC historically has had concerns with re-routing hazardous shipments away from urban areas into rural areas. In many cases, urban areas have better trained and equipped hazmat teams that can quickly respond to a major hazmat incident, while a rural fire department will not be as well-prepared. The NTSB's recommendation may have the effect of sending more shipments into these rural areas that are protected by under-funded, under-equipped and under-staffed fire departments.

29 CFR 1910.120 to ensure that they are adequately prepared to safely and effectively respond to an incident involving crude oil, ethanol or other flammable liquids.

In February, the U.S. Department of Transportation and the AAR announced an agreement regarding the transportation of crude oil that included the allocation of \$5 million to train emergency responders. Most of this specialized training will be focused on hazardous materials technicians and is to be conducted at the Transportation Technology Center Inc. in Pueblo, Colorado. The IAFC believes that it will be helpful to have more responders trained to the technician level. However, it is important to realize that this extra funding will not cover all of the first responders that potentially can be called upon to initially respond to an incident involving crude oil, ethanol, or other flammable liquids.

The IAFC believes that an effective training program for first responders in communities bordering rail lines with crude oil, ethanol and other flammable liquids shipments must utilize a blended approach. This blended approach should contain both web-based and in-person training modalities.

Web-based training can play an important role in reaching the large numbers of the firefighters and other emergency responders who must be prepared to respond to crude oil or ethanol incidents. This type of training is easy and cost effective for fire departments to use, because all that is required is access to a web portal through the internet or the use of a CD, instead of traveling to a remote location or scheduling a class with an in-person trainer. It is also easier to schedule web-based training in the evening or weekend for volunteer firefighters, or just have them sign up and take the training remotely in their free time. Finally, because there are little transportation costs, it is much more cost-effective to reach a wide population of fire and emergency responders through web-based training.

The IAFC has experience in delivering both web-based and in-person training. By delivering our Hydrogen Response Considerations on-line class, we have reached over 7,500 first responders. Additionally, by partnering with the Federal Railroad Administration and the PHMSA, the IAFC's National Hazardous Materials Fusion Center has been successful in assisting hazmat responders in Massachusetts, Maryland, and Louisiana to develop and conduct rural emergency response planning surveys. Those surveys were used to assist rural fire and emergency services organizations in developing comprehensive strategic and tactical approaches for hazardous materials preparedness, including transportation risk assessments and gap analyses.

The IAFC also has developed training with the Renewable Fuels Association and other stakeholders to assist first responders with preparation for and response to ethanol incidents. This training program, developed under the auspices of the Ethanol Emergency Response Coalition, provided training through web-based content and distributed CDs to over 10,000 first responders throughout the country. In one example, a train-the-trainer program was presented five times in Pennsylvania to educate the state's hazmat instructors. This blended training class is now on its second version.

One of the major ways in which the federal government supports hazardous materials training for fire and emergency responders is through PHMSA's Hazardous Materials Emergency Preparedness (HMEP) Grant Program. Funded with fees paid by hazardous materials shippers

and carriers, the HMEP program allocates a total of about \$28 million each year to help state and tribal governments work with localities to prepare for hazardous materials incidents. The HMEP program funds efforts such as determining flow patterns of hazardous materials through communities, training public sector hazardous materials emergency response employees, developing and revising emergency response plans, and determining the need within a state for regional hazardous materials emergency response teams.

The IAFC believes that Congress and the PHMSA should take steps to improve the implementation of the HMEP program. For example, from Fiscal Year (FY) 2007 through FY 2010, an average of 76% of states, territories, and tribal organizations used none or only a portion of their allotted grant funds. The PHMSA recently received more grant monies back from various states that did not use all of their dedicated funding. Meanwhile, the NTSB hearing on July 9-10, 2013, concerning the incident in Paulsboro, New Jersey, clearly demonstrated that fire departments have not received the proper training that they requested to safely and effectively respond to hazardous materials incidents. At a time when the transportation and use of alternative fuels is presenting new and daunting challenges to the emergency response community, it is important that existing funding programs are utilized to their fullest in assisting our first responders.

The IAFC believes that HMEP funds could be used more efficiently if a fixed percentage of the annual funding were subject to a competitive process for non-profit and non-profit employee organizations that have demonstrated expertise in hazardous materials response planning and training. This proposal would allow experienced organizations to work with local fire service and other emergency response organizations to address identified gaps in being able to respond to incidents involving rail shipments of hazardous materials. Any training would have to be consistent with the requirements of the Operations level of NFPA 472 and OSHA 1910.120 to ensure that it meets the applicable federal and voluntary consensus standards. In addition, a competitive process should give priority to organizations that focus on improving planning and training for rural and volunteer fire departments, which protect many of the rail lines through which alternative fuels travel, and should include the use of web-based training.

At a time when many emergency services organizations continue to struggle with budget cuts, increasing service demands, and are adapting to other emerging hazards, the proliferation of alternative fuels has added another complexity to response considerations. Emergency responders cannot ignore the challenges that exist in the transportation and use of such commodities. Emergency response considerations with alternative fuels must include the transportation industry and should be based on sound planning, appropriate and effective responder training, adequate funding, and the development of effective response systems to safely mitigate incidents when they occur.

Thank you for holding today's public meeting about the subject of rail safety, and the transportation of crude oil and ethanol. The IAFC thanks the NTSB for focusing on this important issue. Today's hazards are similar to others in the past. We learned that to improve our capability in the prevention of and response to hazardous materials incidents, we need to establish provisions that increase our capability and provide the necessary resources. The IAFC strongly believes that we can work together to ensure safer rail transportation of hazardous materials.