

## FDNY Battalion Chief Analyzes Key HazMat Threats in July's GRN/MRN Web Forum

On July 15, 2015, FDNY Battalion Chief and WMD Branch Chief for the Center for Terrorism & Disaster Preparedness **Robert Ingram** briefed us on **existing and emerging HazMat threats** during the combined Global Resilience Network/Metropolitan Resilience Network live monthly web forum.

### Current Challenges in Addressing Hazardous Materials:

- Regulations and **standards are lagging behind the rapid pace of technological advancement**, posing safety risks to public safety personnel and the public.
- Safety and emergency response standards and regulations are typically updated every 5-10 years, with the process sometimes taking longer, leaving **new technologies unregulated**.
- At a time of shrinking budgets, **researchers, manufacturers and operators must collaborate** to update standards and guidance documents to keep up with innovation.

### Key Existing HazMat Threats:

- Increased use of **alternative fuels**, such as liquefied natural gas (LNG) and liquefied petroleum gas (LPG), which pose a risk during transport and in the case of spills.
- Rise of **chemical suicides** in the U.S., which can also harm neighbors and emergency responders.
- Aging buildings in many urban areas including New York City are subject to collapse, raising concern over dangers such as **asbestos and lead paint**.

### Emerging HazMat Threats:

- Proliferation of **synthetic materials**, which upon burning release potentially hazardous substances such as Hydrogen Cyanide, or cyanide compounds.
- Storage and operation of **battery back-up systems** that companies are using more frequently to prepare for power outages, and which are not yet regulated by fire prevention standards and safety standards.
- ISIS' interest in **chemical weapons**, and claims of **radiological material** in their possession.

### How We Can Protect Ourselves and Our Organizations:

- Even in the absence of regulation on a material, companies should communicate with their local fire department/public safety organizations to **ensure that there are protective measures** in place.
- Companies conducting evacuation exercises must **coordinate with their public safety departments** to guarantee that there are **proper channels of communication** with neighboring buildings and the public to avoid confusion and panic regarding the potential causes of an evacuation.
- Companies should consult their fire departments during the design and installation of **physical security measures** to avoid obstructing the responding fire departments/other agencies and delaying emergency response efforts.

### Looking to the Future:

- The FDNY is currently evaluating the use of **robotics to detect hazardous situations** and measure contamination levels.
- The FDNY is also assessing the capabilities of **drones** in HazMat management, though the use of these technologies must follow FAA regulations to avoid creating other risks.
- The FDNY's **strategic foresight initiatives** aim to analyze what the future will look like in ten or twenty years, in order to meet evolving emergency management challenges.