Confined Space Entry for the Bomb Technician & Investigator

by
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Scenario:

1330 hours, a male subject enters the bank at 123 East Main Street; he places a package on the counter and demands money from the teller. He states that there is an explosive device in the package and he will detonate it if his demands are not met. Patrol officers arrive on the scene; the subject flees and runs into a storm sewer under the freeway. Patrol officers stage at the opening of the storm sewer and can see that the subject has collapsed inside approximately 100 yards from the sewer opening. Patrol officers standby outside of the sewer and call for fire department assistance. The fire department arrives on the scene but will not allow any of their personnel into the sewer until the explosive device is removed or rendered safe.

Questions:

Are members of your bomb squad trained to OSHA Standards to safely enter a confined space?

Does your department have written confined space entry SOPs?

Have you trained with fire department technical rescue teams on confined space entry?

The situation described above justifies the need for any person who may be tasked with entering a confined space be trained and equipped to perform the entry in a safe manner. Many of us have either entered a confined space or know officers who have entered a confined space without being properly trained or without following the proper safety procedures. Unfortunately police officers have died after being exposed to hazardous conditions inside confined spaces. Bomb technicians and investigators may be called upon to enter a confined space to perform an essential mission. A few examples may include; recovery/neutralization of an improvised explosive device, stashed explosive, suspicious item, collection of evidence and dignitary protection searches

As we are all aware, an IED or explosive can be placed or secreted into almost any space. Some of these spaces may have an inherent environmental hazard, be difficult to enter or exit, or possess a hazard created by the device or explosive. For example, a particular confined space may not possess the normal exchange of air that is needed to carry away dangerous off-gases from an explosive, like nitroglycerin based dynamite or fuel vapors from Ammonium Nitrate Fuel Oil (ANFO) explosive mixture. A bomb technician or investigator must be aware of the hazards of a given space and mitigation techniques to ensure a safe operation. Robots are an invaluable tool in these situations; unfortunately, it is sometimes impossible for a robot to access the area where the device is located.

In the United States, the Occupational Health and Safety Administration (OSHA) governs the standards for employer certification, training standards and necessary equipment needed to safely enter a confined space. Some states and industries within the US have created additional requirements, such as California OSHA, MSHA, NFPA (rescue) and federal employees. Since the mission of a bomb technician or investigator necessitates the need for entry and exit to perform a non-rescue mission into a confined space; we will not discuss the other standards in this article.

29 Code of Federal Regulations (CFR) 1910.146 covers the requirements for personnel who may enter a confined space or permit-required confined space. A confined space is defined as, a space that:

(1) is large enough and so configured that an employee can bodily enter and perform assigned work;

(2) has limited or restricted means for entry or exit;

(3) is not designed for continuous employee occupancy.

A permit-required confined space means a confined space that has one or more of the following characteristics:

(1) contains or has the potential to contain a hazardous atmosphere,

(2) contains a material that has the potential for engulfing an entrant;

(3) has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section;

(4) contains any other recognized serious safety or health hazard.

Don't let the word "permit" deter you, the permit is simply a document, completed by the on-scene personnel, containing information such as the date, time, entrant's information, lists of hazards, steps used to eliminate the hazards, air monitoring results, etc. This permit allows rescue personnel documentation of the conditions in the confined space entered and allows them to more appropriately plan for the safe rescue operation. It also allows all entrants to see what conditions exist inside the space. Sample permits can be found in 29 CFR 1910.146 Appendix D which is available online.

Public safety agencies fall under the OSHA General Industry regulations, there is NO EMERGENCY RESPONSE EXCEPTION. 29 CFR 1910.146 was written to prevent accidents like the one described earlier. These regulations require that the employing agency has a written program (SOP), provides standardized training (defined in 29 CFR 1910.146), and availability of proper protective and safety equipment to complete the operation. Failure of an agency to comply with these standards can result in unnecessary injury or death and hefty administrative penalties/fines.

For US Bomb Technicians and Bomb/Explosives Investigators, compliance with OSHA standards is fairly simple. Bomb Technicians and Bomb/Explosives Investigators already are trained to the Hazardous Materials Operations or Technician level; therefore they have received training in the dangers of chemical hazards, air monitoring equipment and the use of protective equipment for entry into a confined space. The only area missing from within your agency is a written program (SOP), OSHA Confined Space training and specialized equipment (obtained through your local fire department or public works confined safe entry or rescue teams).

The International Association of Bomb Technicians and Investigators and the Phoenix Police Department will be offering an eight-hour course on Confined Space Entry for Bomb Technicians and Investigators, as a pre-conference workshop at the IABTI International Training Conference in Phoenix, Arizona this July. This workshop will provide training as required by 29 CFR 1910.146, a sample of a Bomb Squad Confined Space Entry Program, a sample confined space entry permit, and demonstrative confined space entries as it applies to the bomb technician or investigator.

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The writers of this article are certified Bomb Technicians, NFPA Hazardous Materials Technician/Specialists, Certified Fire and Explosion Investigators, and Confined Space Entry Trainers. If you have any questions regarding this article or the upcoming workshop, please contact us anytime, Mark Brown 602-534-6317, Dan Waltenbaugh 480-624-4005.

"An expert is a person who has made all the mistakes that can be made in a very narrow field."

~ Niels Bohr,
Danish physicist (1885-1962)