



FEMA

LESSON LEARNED

Search and Rescue: Planning for Carbon Monoxide Buildup in Confined Work Spaces

SUMMARY

Urban search and rescue (US&R) teams should consider including monitoring the air for carbon monoxide in their operations plans. Teams should also consider procuring electrically powered tools for use in confined spaces.

DESCRIPTION

Pennsylvania Region 13 sponsored and conducted the Steel Hammer full-scale exercise (FSE) in conjunction with Beaver County Emergency Medical Services from September 14 to 16, 2007. The FSE was conducted in multiple venues throughout Pennsylvania's Region 13 and involved over 3,000 participants and 128 organizations from the Region's federal, state, local, and private sectors. Region 13 conducted the FSE to test a broad scope of response capabilities across multiple jurisdictional levels and agencies. The FSE scenario included a vehicle-borne improvised explosive device using the toxic industrial chemical chlorine and the dissemination of anthrax over three separate locations. One FSE objective was to demonstrate the ability of technical rescue and US&R teams to conduct building triage, stabilization, and breaching operations.

The Pennsylvania Region 13 Task Force consists of 13 counties and the City of Pittsburgh in southwestern Pennsylvania. The Task Force provides the region with an all-hazards response capability.

US&R teams established and conducted air monitoring throughout the FSE to assess the incident site for hazardous materials or other environmental conditions. In the process, the teams identified real-world carbon monoxide buildup that resulted from the operation of internal combustion engine-powered equipment in confined work spaces. The Steel Hammer after-action report (AAR) recommended that additional meters should be procured to provide sufficient coverage of work areas. The AAR also noted that US&R teams should acquire electrically powered tools to supplement the gasoline-powered equipment.

US&R teams should consider including monitoring the air for carbon monoxide in their search and rescue operations plans. Further, US&R teams should consider procuring electrically powered tools for use in confined spaces.

CITATION

Pennsylvania Region 13. *DRAFT Operation STEEL HAMMER After Action Report*. 22 Oct 2007.

<https://www.llis.dhs.gov/docdetails/details.do?contentID=35104>

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