Report Date: 08 May 2014

Summary Report for Individual Task
052-247-1203
Conduct Atmospheric Monitoring for an Urban Search and Rescue Incident
Status: Approved

Condition: You are a member of an Urban Search and Rescue (US&R) team and are given an US&R incident, reference material, proper personal protective equipment (PPE) and accurately calibrated monitoring equipment. This task should not be trained in MOPP 4.

Standard: Conduct monitoring of the environment so that a representative sample of the space is obtained, accurate readings are made, and readings are documented in accordance with (IAW) National Fire Protection Association (NFPA) 1006.

Special Condition: None

Safety Risk: Low

MOPP 4: Never

Task Statements

Cue: None

DANGER

None

WARNING

None

CAUTION

None

Remarks: All required references and technical manuals will be provided by the local US&R Command.

Notes: None

Performance Steps

1. Don the appropriate level of PPE.

2. Place the monitor into operation. (See task 031-627-1010)

3. Collect air samples.

a. For confined spaces, monitor the entry.

(1) Perform initial air monitoring from outside the space.

Note: Monitor the outside of the confined space as you approach the opening to make sure any venting contaminants are not creating a hazardous atmosphere for you to walk into.

(a) Use an aspirator or probe around doors, keyholes or hatches.

(b) Monitor all areas prior to entering, whenever possible.

Note: The safety officer, rescue officer and rescue team will determine the frequency of testing.

(2) Test various levels of the space.

Note: The following atmospheric conditions shall be considered an Imminent Danger to Life and Health (IDLH) environment: Oxygen deficient: 19.5% or lower. Oxygen enriched: 23.5% or higher. Toxicity: levels that exceed the permissible exposure limit (PEL) for any substance. Airborne combustible dust: a concentration of combustible dust that meets or exceeds its lower explosive limits. This condition may be approximated as a condition in which dust obscures vision at a distance of five feet or less. Flammability: 10% of the Lower Flammable Limit (LFL) or Lower Explosive Limit (LEL): Rescuers shall not enter confined spaces containing atmospheres with greater than 10% of the LEL regardless of the PPE worn. There is no adequate protection for an explosion within a confined space.

Figure 052-247-1203-1
Atmospheric Monitoring

(a) Test levels at the entrance to the space.

(b) Test mid levels of the space.

(c) Test floor levels of the space (do not place in liquid, if present).

Note: For each test required, allow enough time for the air from the space to be drawn into the equipment and for the sensor to react to the chemical, if it is present. The minimum response time will vary if additional hosing or probes are attached to test lower levels of the space.

b. For trenches.

(1) Take the first readings as near as possible to the victim, with readings at the top, middle, and bottom zones of the trench.

(2) Monitoring may be assigned to the first arriving Haz-Mat unit, if added to the alarm assignment.

(3) Monitor continuously throughout the incident.

(4) Log readings a minimum of every 20 minutes and prior to any re-entry.

Figure 052-247-1203-2
Atmospheric Monitoring

4. Conduct air quality evaluation testing in the following order.

a. Oxygen content (%).

b. Flammability (% of the Lower Explosive Limit (LEL)).

c. Toxicity – Measured in parts per million (ppm) or parts per billion (ppb) depending on the substance.

5. Verify and document the test results.

Note: Atmospheric testing is required for two distinct purposes: evaluation of the hazards of the permit space and verification that acceptable conditions exist for entry into that space.

6. Continually monitor the space and surrounding area IAW standard operating procedures (SOP) or standard operating guidelines (SOG).

a. Test the space during operation.

b. Test the space prior to re-entry.

7. Inform the incident commander of any alarms or other than normal readings.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: Score the Soldier GO if all measures are passed (P). Score the Soldier NO-GO if any measures are failed (F). If the student fails any measure, show them how to do it correctly.

Evaluation Preparation: Setup: Provide the Soldier with all the items listed in the conditions.

Brief the Soldier: Tell the Soldier to conduct atmospheric monitoring for an Urban Search and Rescue incident.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Donned the appropriate level of PPE.			
2. Placed the monitor into operation. (See task 031-627-1010)			
3. Collected air samples.			
4. Conducted air quality evaluation testing in the proper order.			
5. Verified and documented the test results.			
6. Continually monitored the space and surrounding area IAW standard operating procedures (SOP) or standard operating guidelines (SOG).			
7. Informed the incident commander of any alarms or other than normal readings.			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	IFSTA	International Fire Service Training Association (IFSTA) Fire Service Search and Rescue, 7th Edition	No	No
	IFSTA - 1st Edition	IFSTA Technical Rescue for Structural Collapse, 1st Edition	No	No
	NFPA 1006	Standard for Rescue Technician Professional Qualifications	Yes	Yes
	NFPA 472	National Fire Protection Association, Standard for Professional Competence of Responders to Hazardous Materials Incidents, 2002 Ed	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful

effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks :

Task Number	Title	Proponent	Status
052-247-1315	Control Hazards of a Confined Space	052 - Engineer (Individual)	Analysis
052-247-1204	Perform Ventilation Procedures for an Urban Search and Rescue Incident	052 - Engineer (Individual)	Reviewed
052-247-1217	Operate a Supplied Air Respirator System	052 - Engineer (Individual)	Reviewed
052-247-1329	Prepare for Entry Into a Confined Space Rescue Operation	052 - Engineer (Individual)	Analysis
052-247-1316	Construct Support Systems for a Non-Intersecting Straight Wall Trench	052 - Engineer (Individual)	Analysis

Supported Collective Tasks :

Task Number	Title	Proponent	Status
05-3-8012	Perform Trench Rescue Operations	05 - Engineers (Collective)	Approved
05-3-8014	Perform a Structural Collapse Rescue Operation	05 - Engineers (Collective)	Approved
05-3-8013	Perform Confined Space Rescue Operations	05 - Engineers (Collective)	Approved