Disaster Technical Search Specialist

TNG-11S

Program of Instruction

Updated: August 2009

GSA Schedule

Texas Engineering Extension Service
Urban Search and Rescue

TEEX is a member of the
National Domestic Preparedness Consortium

Course Details

Course Length: Five days long, ten training hours each day (40 total training hours). Class is from 0800 to 1800 each day.

Delivery Location: Delivered in Disaster City®, TX – within the city limits of College Station, TX or equivalent training facility.

GSA and Grant Funding Approval:
The Disaster Technical Search Specialist course is listed on GSA Schedule 84. TEEX has special registration requirements for GSA participants. Please contact the TEEX US&R Division to register for a GSA-approved course. For more information on ordering from Federal Supply Schedules, please visit: www.gsa.gov

Certificate: TEEX certificate of completion

Prerequisites: There are no prerequisites for this course.

Due to the strenuous nature of search and rescue activities, participants should secure a professional evaluation of their physical condition prior to enrolling in these courses.

Target Audience:

This course has been developed for city, state and federal urban search and responders. The target audience also includes all emergency responders from municipal and industrial agencies tasked with conducting technical search operations at natural disasters and terrorist incidents. Course participants include emergency responders from the following six disciplines/services:

- Fire Service (FS)
- Law Enforcement (LE)
- Civil Defense (CD)
- Emergency Medical Services (EMS)
- Industrial Customers (IND)
- Military (MT)

Mission Area: Respond

Level of Training: Performance – Offensive

Required Equipment:

This course requires students to bring with them specific equipment. The course participants should arrive with the following items:

- Helmet (must be ANSI rated Z89.1 – Type 1) with headlamp
- Steel toe safety boots (must be ANSI Z41 PT99 M1/75 C/75)
- Eye protection (must be ANSI Z-87.1)
- Work gloves and kneepads
- Standard work/duty clothing including long sleeve shirts for every day of class
- Raingear suitable for search and rescue operations. Class is conducted rain or shine

NOTE: N-95 dust masks and ear plugs will be provided by TEEX

Course Overview

Course Background

This course was designed to mirror the FEMA 40 hour Technical Search Specialist course currently taught to members of the national FEMA US&R teams. Many jurisdictions have requested to receive the official FEMA Technical Search Specialist course, however only members of one of the 28 FEMA National US&R teams can attend a FEMA sanctioned delivery. To accommodate state and regional teams that wish to receive the same training and standards as FEMA task force members, TEEX offers this Disaster Technical Search Specialist course.

Course Description

This Disaster Technical Search Specialist course is designed to provide the students the knowledge, skills and abilities to perform technical searches of structural collapse or CBRNE incidents. A heavy focus is placed upon search techniques, listening devices, search cameras, and GPS-enabled location techniques.

Course Purpose

The purpose of the Disaster Technical Search Specialist course is to provide jurisdictions with the same training received by the FEMA US&R Technical Search Specialists. This course has significant hands on labs in Disaster City® to ensure that students received the necessary knowledge, skills, and abilities to perform technical rescue operations at CBRNE and/or structural collapse incidents. First responders completing this course will be prepared to work as part of a team to perform technical searches of disaster incident scenes involving trapped and entombed victims as a result of a terrorist attack and/or structural collapse.

Course Format

Classes will begin at 8:00 a.m. each day. Participants should plan travel to arrive the night before classes begin. For the purpose of making hotel arrangements, participants could make reservations in the cities of Bryan, TX or College Station, TX. Course delivery consists of didactic instruction, participant activities, and hands-on task-oriented practical exercises. Course delivery consists of 45 percent didactic classroom presentations and lectures, and 55 percent hands-on and task-oriented practical training in both the Technical Skills Training Area (TSTA) and Disaster City®.

Students can attend the Disaster Technical Search Specialist Course in two formats:

1. Open enrollment classes – TEEX offers the course on fixed dates approximately three times per. Any student meeting the prerequisites may enroll in the course online. This course typically has a broad cross section of responders and offers an excellent ability for lessons learned from other departments.

2. Contract classes – TEEX can provide this course exclusively for a jurisdiction or region. These courses must have a minimum of 6 and can have a maximum of 48 participants. When conducting contract classes, TEEX can add curriculum to meet specific requirements of the sponsoring jurisdiction.

Course Scope

The scope of this course addresses priorities and capabilities that Department of Homeland Security is encouraging state and local jurisdictions to establish. This course assists with establishing priorities for the National Planning Scenarios[1], the National Preparedness Guidelines[2], the Target Capabilities List[3], and the Universal Task List[4].

National Planning Scenarios

The National Planning Scenarios[1] are a reference to help federal, state, local, and tribal entities at all levels of government evaluate and improve their capabilities to perform their assigned missions and tasks in major events. This course gives a state/region the capability to conduct wide area search operations in twelve out of the fifteen National Planning Scenarios[1]:

Scenario 1: Nuclear Detonation – 10-Kiloton Improvised Nuclear Device
Scenario 2: Biological Attack – Aerosol Anthrax
Scenario 3: Biological Disease Outbreak – Pandemic Influenza
Scenario 4: Biological Attack – Plague
Scenario 5: Chemical Attack – Blister Agent
Scenario 6: Chemical Attack – Toxic Industrial Chemicals
Scenario 7: Chemical Attack – Nerve Agent
Scenario 8: Chemical Attack – Chlorine Tank Explosion
Scenario 9: Natural Disaster – Major Earthquake
Scenario 10: Natural Disaster – Major Hurricane
Scenario 11: Radiological Attack – Radiological Dispersal Devices
Scenario 12: Explosives Attack – Bombing Using Improvised Explosive Devices

National Preparedness Guidelines

The National Preparedness Guidelines[2] defines what it means for the Nation to be prepared for all hazards. There are four critical elements of the *Guidelines*:

(1) The ***National Preparedness Vision***, which provides a concise statement of the core preparedness goal for the Nation.
(2) The ***National Planning Scenarios***[1], which depict a diverse set of high consequence threat scenarios of both potential terrorist attacks and natural disasters. Collectively, the 15 scenarios are designed to focus contingency planning for homeland security preparedness work at all levels of government and with private sector. The scenarios form the basis for national planning, training, exercises, and grant investments needed to prepare for emergencies of all types.
(3) The ***Target Capabilities List***[3] ***(TCL)***, which defines 37 specific capabilities that communities, the private sector, and all levels of government should collectively possess in order to respond effectively to disasters.
(4) The ***Universal Task List***[4] ***(UTL)***, which is a menu of some 1,600 unique tasks that can facilitate efforts to prevent, protect against, respond to, and recover from the major events that are represented by the National Planning Scenarios. It presents a common vocabulary and identifies key tasks that support development of essential capabilities among organizations at all levels.

Course Scope (continued)

The *Guidelines* establish a capabilities-based approach to preparedness. Simply put, a capability provides the means to accomplish a mission. The *Guidelines* address preparedness for all homeland security mission areas: prevention, protection, response, and recovery. A capability consists of the combination of elements required to deliver the desired outcome.

TEEX US&R courses primarily deal with the Search and Rescue (Land-Based) capabilities found within the Respond Mission Area and the outcome is: The greatest number of victims (human and, to the extent that no human remain endangered, animal) are rescued and transferred to medical or mass care capabilities, in the shortest amount of time, while maintaining rescuer safety.

In order to support a consistent nationwide approach to implementation, the Guidelines establish three capabilities-based preparedness tools and a National Preparedness System. To help correctly balance the potential threat of major events with the requisite resources to prevent, respond to, and recover from them, the *Guidelines* also includes seven national priorities. The priorities fall into two categories: overarching priorities that contribute to development of multiple capabilities, and capability-specific priorities that build selected capabilities from the TCL for which the Nation has the greatest need. Priorities that apply to this course are highlighted in red. The overarching priorities are:

4.1 Expand Regional Collaboration
4.2 Implement the NIMS[6] & the National Response Framework[5]
4.3 Implement the National Infrastructure Protection Plan

Additionally, the National Preparedness Guidelines[2] has four capability specific priorities:

4.4 Strengthen Information Sharing and Collaboration Capabilities
4.5 Strengthen Interoperable and Operable Communications Capabilities
4.6 Strengthen CBRNE Detection, Response, and Decontamination Capabilities – *this course specifically addresses this National Preparedness Goal priority*
4.7 Strengthen Medical Surge and Mass Prophylaxis Capabilities

Course Scope (continued)

Target Capabilities List

The September 2007 version of the Target Capabilities List[3] (TCL) provides guidance on the specific capabilities and levels of capability that Federal, State, local, and tribal entities will be expected to develop and maintain. The TCL is designed to assist jurisdictions and agencies in understanding and defining their respective roles in a major event, the capabilities required to perform a specific set of tasks, and where to obtain additional resources if needed. The TCL is considered a "living" document that will continue to be refined over time. The TCL identifies 37 essential capabilities. The applicable tables of the Response Mission: Search and Rescue (Land-Based) – Target Capabilities (page 407 thru 419 of the September 2007 TCL) that deal with Search and Rescue are included below. Personnel having completed the Disaster Technical Search Specialist course give jurisdictions the capabilities that are highlighted in red.

Capability Definition

Search & Rescue (Land-Based) is the capability to coordinate and conduct search and rescue (SAR) response efforts for all hazards, including searching affected areas for victims (human and, to the extent that no humans remain endangered, animal) and locating, accessing, medically stabilizing, and extricating victims from the damaged area.

Outcome

The greatest number of victims (human, and to the extent that no humans remain endangered, animal) and rescued and transferred to medical or mass care capabilities, in the shortest amount of time, while maintaining rescuer safety.

Performance Measures and Metrics and Critical Tasks

Activity: *Direct Search & Rescue Tactical Operations* **Definition: In response to notification of entrapment, provide management and coordination of SAR capability, through demobilization for single or multiple teams**	
Critical Tasks	
Res.B4a 3.1	Receive and accept SAR request/activation order
Res.B4a 3.2	Participate in SAR planning process and operational briefings
Res.B4a 3	Plan and coordinate SAR operations at incident site
Res.B4a 3.4.1	Direct SAR resources according to the National Incident Management System (NIMS), the Incident Command System (ICS), and consensus-level technical rescue standards
Res.B4a 3.4.3	Determine need for deployment of additional SAR assets
Res.B4a 3.6.1	Provide timely situational awareness and response information
Res.B4a 3.6.1.1	Establish and maintain a chronological log of events in the field
Res.B4a 3.6.2	Document and collect SAR operations information, including chronological log of events in the field for use in after action review
Res.B4a 3.7.3	Re-assign/rotate technical specialists, as needed
Res.B4a 3.3.3	Maintain accountability of all SAR personnel
Res.B4a 3.2.1	Identify logistics capability of incident site to determine whether deployed SAR teams must be self-sustaining
Res.B4a 3.7	Develop SAR team reassignment/demobilization plan

Course Scope (continued)

Target Capabilities List (continued)

Activity: *Activate Search & Rescue* **Definition: In response to notification, mobilize and arrive at the incident scene to begin operations**	
Critical Tasks	
Res.B4a 3.1	Receive and accept SAR request/activation order
Res.B4a 4.3	Participate in Search and Rescue (SAR) planning process and operational briefings
Res.B4a 4.2	Initiate mobilization procedure
Res.B4a 4.2.1	Assemble personnel and equipment at designated location
Res.B4a 4.2.2	Deploy Federal, State, regional or local SAR resources commensurate with request
Res.B4a 4.2.2	Transport team (personnel and equipment) to incident scene
Res.B4a 4.2.3	Collect and analyze incident information to assist SAR capability deployment decisions

Activity: *Provide Materiel and Other Support* **Definition: Upon arriving on scene, provide, track, and maintain equipment and supplies as well as support base of operations**	
Critical Tasks	
Res.B4a 4.3	Participate in Search and Rescue (SAR) planning process and operational briefings
Res.B4a 5.1	Establish base of operations
Res.B4a 5.2	Maintain accountability of team equipment/supplies
Res.B4a 5.1.1	Provide medical care for SAR personnel, including the K-9 first responders

Activity: *Conduct Search and Rescue Reconnaissance* **Definition: Once on scene and equipped, provide rapid assessment of assigned SAR work areas and recommend search priorities/tactics to management.**	
Critical Tasks	
Res.B4a 6.1.1	Assess incident site to determine search and rescue course of action
Res.B4a 6.1.2	Assess the incident site for hazardous materials (hazmat) and other environmental conditions
Res.B4a 6.1.3	Develop map of search area to be used in SAR tactical operations
Res.B4a 6.3	Communicate findings and recommend priorities to Team Management

Activity: *Search* **Definition: Upon being assigned search area, begins search operations.**	
Critical Tasks	
Res.B4a 4.3	Participate in SAR planning process and operational briefings
Res.B4a 7.1	Ensure scene/site safety (security, shoring, debris)
Res.B4a 7.2	Conduct area search for victims
Res.B4a 7.2.1	Search for victims using canine, physical, and electronic search capabilities
Res.B4a 7.2.2	Identify and record potential/actual victim locations (live and dead)
Res.B4a 7.3	Direct ambulatory victims to safe assembly point
Res.B4a 7.4	Report progress of search efforts on a regular basis to SAR lead
Res.B4a 7.5	Maintain accountability for search personnel, equipment, and supplies

Course Scope (continued)

Universal Task List

The Universal Task List[4] (UTL) is a useful planning reference: a comprehensive menu of tasks that may be performed in major events illustrated by the National Planning Scenarios[1]. The UTL describes "what" tasks need to be performed. Federal, state, local and tribal entities reserve the flexibility to determine "who" needs to perform them and "how" to perform them. While no single jurisdiction or agency is expected to be able to perform all the tasks, it is expected that tasks will be chosen based on specific roles, missions, and functions. The UTL should be used by entities at all levels of government as a reference to help them plan, organize, equip, train, exercise, and evaluate personnel from the critical tasks that they may need to perform in major events that could occur across town or across the Nation. The UTL is considered a "living" document that will continue to be refined over time. The applicable tables of the UTL (pages 82 thru 83 of the Version 2.1 issued May 23, 2005) that deal with Search and Rescue are included below. Jurisdictions with personnel that have completed the Disaster Technical Search Specialist course will have the capacity to perform the following tasks outlined in red:

Function ID	Sequence Number	Task
Res.B.4	**1**	**Develop plans, procedures, and protocols to prepare for urban search and rescue operations**
Res.B.4	1.1	Develop policies and procedures for urban search and rescue
Res.B.4	1.2	Establish, maintain, and manage the national urban search and rescue response system
Res.B.4	1.3	Ensure appropriate legal issues pertaining to liability claims, including the application of the good Samaritan laws, are understood and resolved
Res.B.4	1.4	Establish plans, procedures and protocols for logistical support for urban search and rescue assets
Res.B.4	**2**	**Develop and conduct exercises and training for search and rescue**
Res.B.4	2.1	Develop urban search and rescue training programs
Res.B.4	2.2	Provide training for urban search and rescue augmenting organizations
Res.B.4	**3**	**Coordinate urban search and rescue response**
Res.B.4	3.1	Provide resource & technical support
Res.B.4	3.1.1	Manage urban search and rescue mutual aid agreements
Res.B.4	3.1.2	Provide technical assistance, training, and operational support to urban search and rescue teams and assets
Res.B.4	3.1.2.1	Provide portable shelters for use by urban search and rescue task force
Res.B.4	3.1.2.2	Provide mobile feeding units for urban search and rescue task force
Res.B.4	3.1.3	Identify need for additional assistance
Res.B.4	**4**	**Conduct Search and Rescue**
Res.B.4	4.1	Assess situation and needs
Res.B.4	4.2	Assess incident site to determine search and rescue course of action
Res.B.4	4.2.1	Collect assessment information from damage assessment teams for inclusion in situation reports and for decision-making regarding US&R resources
Res.B.4	4.2.2	Issue additional advisories and alert and activation orders as required
Res.B.4	4.2.3	Determine need for deployment of additional US&R assets
Res.B.4	4.3	Conduct urban search and rescue operations
Res.B.4	4.3.1	Activate urban search and rescue support (US&R)
Res.B.4	4.3.1.1	Activate the national urban search and rescue response system for any incident of national significance

Course Scope (continued)

Universal Task List (continued)

Function ID	Sequence Number	Task
Res.B.4	4.3.2	Deploy urban search and rescue task forces or teams
Res.B.4	4.3.3	Evaluate the disaster site for hazardous materials
Res.B.4	4.3.3.1	Identify heavy machinery support requirements
Res.B.4	4.3.4	Direct search and rescue teams and collapse-site teams
Res.B.4	4.3.5	Search and extract victims from site
Res.B.4	4.3.5.1	Direct the use of heavy machinery in recovery effort
Res.B.4	4.3.5.2	Stabilize and support entry and exit points for urban search and rescue operations
Res.B.4	4.3.6	Provide status reports on urban search and rescue operations
Res.B.4	4.3.6.1	Provide timely situational awareness and response information and establish and maintain chronological log of events in the field
Res.B.4	4.3.7	Formulate redeployment plans for urban search and rescue assets and personnel
Res.B.4	4.3.7.1	Formulate decisions on the demobilization of regional and State first responder assets and personnel
Res.B.4	4.3.8	Provide care for rescuers, including the K-9 first responders

Course Scope (continued)

Additional Courses

TEEX US&R can provide additional courses related to search and rescue at Disaster City® or on-site at your jurisdiction:

US&R Search Program:

1. Disaster Technical Search Specialist
2. Disaster Canine Search Specialist
3. Disaster Canine Workshop
4. Wilderness Search and Rescue
5. Wide Area Search NOTE: offered at no cost to any eligible jurisdiction
6. Canine Emergency Medical Care NOTE: offered online at no cost to any eligible participant

US&R Rescue Program:

1. Structural Collapse - Awareness
2. Collapse Rescue Operations
3. Structural Collapse Technician 2
4. Advanced Structural Collapse 3
5. Advanced Structural Collapse 4
6. Medical Considerations for the Rescue Technician
7. Rescue in a Contaminated Environment (RICE)

US&R Hazardous Materials Specialist Program:

1. WMD – Enhanced US&R Operations
2. WMD Considerations for US&R Hazardous Materials Specialists

US&R Swiftwater & Flood Rescue Program:

1. Swiftwater Rescue – Awareness
2. Swiftwater Rescue – Operations
3. Swiftwater Rescue – Technician
4. Swiftwater Rescue – Technician Refresher

US&R Medical Program:

1. Disaster Medical Specialist
2. WMD Considerations for the Medical Specialist
3. Medical Effects of Primary Blast Injuries NOTE: offered online at no cost to any eligible participant
4. EMS Operations & Planning for WMD NOTE: offered at no cost to any eligible jurisdiction

US&R Command Staff Program:

1. Search and Rescue Plans Officer
2. Search and Rescue Safety Officer
3. Search and Rescue Communications Specialist
4. Disaster Logistics Specialist
5. ICS for Structural Collapse Incidents
6. Developing a State/Regional CBRNE Task Force

International US&R Program:

1. International Urban Search and Rescue
2. International Structural Collapse Rescue

US&R Full-Scale Exercise Program

Course Scope (continued)

Resource Requirements

The following items are provided by TEEX for the delivery of this course:

- Classroom capable of handling all course participants
- Computer loaded with Microsoft PowerPoint®
- Computer Projector and screen
- Flip chart and/or whiteboard or chalkboard
- Flip chart markers and/or whiteboard markers or chalk
- Student Manual
- Instructor Manuals
- Module 1 – 9 Microsoft PowerPoint® presentation slides
- All tools, equipment, and supplies required to complete field exercises
- All live and simulation patients required to complete night time field exercise

Module Summary

Module #	Module Title	Time Allocation
Day One		
Module 0	Welcome and Introduction	1 hour
Module 1	US&R System Overview	1 hour
Module 2	Technical Search Specialist Duties and Responsibilities	1 hour
Module 3	Technical Search Considerations & Search Markings	1 hr 15 min
Admin 0.1	Lunch	1 hour
Module 3	Module 3 Skill Stations in Disaster City®	3 hr 15 min
Module 8	Risk Analysis	1 hr 30 min
Day Two		
Module 4	Technical Skills Station – Listening Devices	4 hours
Admin 0.2	Lunch	1 hour
Module 4	Technical Skills Station – Listening Devices	3 hrs 30 min
Demonstration	Canine Search Team Demonstration	1 hour
Day Three		
Module 5	Technical Skills Station – Visual Devices	4 hours
Admin 0.3	Lunch	1 hour
Module 5	Technical Skills Station – Visual Devices	3 hrs 30 min
Day Four		
Module 6	Technical Skills Station – Map & Compass	4 hours
Admin 0.3	Lunch	1 hour
Module 7	Technical Skills Station – Global Positioning System	3 hrs 30 min
Module 9	Night Field Exercise & Evaluation in Disaster City®	4 hours
Day Five		
Module 9	Field Exercise Review & Evaluation	2 hours
Written Exam	Written Examination	1 hour
Feedback	Course Feedback	30 minutes
TOTAL CLASS HOURS		**40 hours**

Students end the course with a final written exam testing their knowledge.

Module 0: Introduction and Orientation

Summary: The students will become familiar with the general overview of the course, and instructors will explain the goal of the course, and describe the course outline and structure. Students will also complete all registration and class rosters forms.

Instructional Resources Required:

- Module 0 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this course, participants will be able to perform the duties of the Technical Search Specialist in one of the Department of Homeland Security (DHS) Federal Emergency Management Agency's (FEMA's) Urban Search and Rescue (US&R) Task Forces in accordance with the policies and procedures of the National US&R System.

Enabling Objectives: Upon the conclusion of this course, participants will be able to:

0-1 Describe the National Urban Search and Rescue Response System within FEMA, including the FEMA US&R Program Office and the US&R Advisory Organization;

0-2 Describe the roles and responsibilities of the Technical Search Specialist;

0-3 Apply the Occupational Safety and Health Administration (OSHA) regulations and National Fire Protection Association (NFPA) standards that specifically apply to US&R Operations;

0-4 Identify safety issues and categorize common hazards encountered during US&R activities;

0-5 Identify different types of damaged structures and the hazards most common to damaged structures;

0-6 Mitigate identified risks to an acceptable level;

0-7 Demonstrate the Technical Search Specialist's role and responsibilities for functional interaction during deployment and exercises;

0-8 Identify training course objectives, ground rules, and administrative requirements; and

0-9 Acknowledge US&R program updates and work group assignments.

Duration: 1 hour

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 1: US&R System Overview

Summary: This module gives a brief history of the development of the US&R system and the creation of federal and regional US&R response teams. Additionally, participants will receive a synopsis of notable US&R responses in the United States.

Instructional Resources Required:

- Module 1 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the successful completion of this module, participants will be able to describe the National Urban Search and Rescue Response System within FEMA, including the FEMA US&R Program Office and the US&R Advisory Organization.

Enabling Objective: Upon conclusion of the module, participants will be able to:

1-1 Describe the structure, mission, and functions of the US&R Program Office, and the Advisory Organization;

1-2 Describe the relationship between the National Response Plan (NRP) and the US&R Response System to include the National Response Coordination Center (NRCC), Regional Response Coordination Center (RRCC) Emergency Response Team (ERT), and Incident Support Team (IST);

1-3 Describe the Robert T. Stafford Disaster Relief and Emergency Assistance Act and how it impacts the National US&R Response System; and

1-4 Describe the mechanism to activate federal assets;

Duration: 2 hours

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 2: Technical Search Specialist Duties and Responsibilities

Summary: This module examines the position description for the Disaster Technical Search Specialist and identifies any additional training that would be required to successfully perform search operations during a US&R incident.

Instructional Resources Required:

- Module 2 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the successful completion of this module, participants will be able to identify and describe the duties and responsibilities of the Disaster Technical Search Specialist position.

Enabling Objectives: Upon the conclusion of this module, participants will be able to:

2-1 Identify the general requirements, duties and responsibilities, position requirements and criteria of a Technical Search Specialist;

2-2 Describe the duties and responsibilities of the Technical Search Specialist position;

2-3 Describe the duties and responsibilities of a reconnaissance and search team member;

2-4 Familiarize participants with US&R documents;

2-5 Orient the Technical Search Specialist with the disaster environment;

2-6 Emphasize how the Technical Search Specialist fits into the Task Force;

2-7 Highlight safety issues and considerations; and

2-8 Enhance networking among course participants.

Duration: 1 hour 35 minutes

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 3: Technical Search Considerations & Search Markings

Summary: The participants will be divided into working squads and identify the functional aspects of technical search. This module explores the operations considerations of how to best benefit from a well trained Disaster Technical Search Specialist at an incident scene as well as the different tactics and tools that relate to the overall search effort. Additionally, this module provides instruction on the latest standardized search markings currently used by the FEMA US&R System.

Instructional Resources Required:

- Module 3 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the successful completion of this module, participants will be able to conduct a standardized, consistent and reliable search process.

Enabling Objective: At the conclusion of this module, the participants will be able to:

3-1 Identify who is responsible for search and reconnaissance activities within the Task Force;

3-2 Describe the advantages and limitations of various search resources used by the US&R Task Force;

3-3 Describe how to conduct a search site size-up, to include a site sketch with hazards and potential safe havens;

3-4 Describe the various search strategies and tactics that may be employed by the Task Force at disaster site;

3-5 Explain the procedures necessary for smooth worksite engagement and disengagement transitions;

3-6 Describe how to properly document search methods and search results;

3-7 Identify general safety issues inherent in conducting search functions; and

3-8 Explain the criteria used to determine the need for the search resources to either move on to another site or be reassigned to other duties.

Duration: 4 hours

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 4: Technical Search Equipment – Listening Devices

Summary: This module exposes the students to the most advanced and mission appropriate listening search equipment in use by US&R teams operating around the country. This module provides an operating overview of the practical applications of deploying each type of listening device and gives the participants significant and varied reality based experience with each device. Participants receive the necessary knowledge to make expedient and informed decisions on which listening search devices will best fit their jurisdictional requirements.

Instructional Resources Required:

- Module 4 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to identify and describe how to operate the various listening devices used in technical search.

Enabling Objective: At the conclusion of this module, the participants will be able to:

4-1 Describe evolution of listening devices;

4-2 Describe the applications for listening devices

4-3 Identify the prime factors affecting sound propagation and explain how materials affect it;

4-4 Differentiate between detecting and locating;

4-5 Describe the importance of making a search plan.

Duration: 8 hours

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 5: Technical Search Equipment – Visual Devices

Summary: This module exposes the students to the most advanced and mission appropriate visual search equipment in use by US&R teams operating around the country. This module provides an operating overview of the practical applications of deploying each type of visual device and gives the participants significant and varied reality based experience with each device. Participants receive the necessary knowledge to make expedient and informed decisions on which visual search devices will best fit their jurisdictional requirements.

Instructional Resources Required:

- Module 5 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to describe the considerations and use of visual search devices during a deployment.

Enabling Objective: At the conclusion of this module, the participants will be able to:

5-1 Identify the types of visual search devices and their inherent advantages and disadvantages;

5-2 Explain the concept of visual void search and how visual search is integrated into overall search and rescue functions;

5-3 Describe collapse analysis for effective deployment of visual search devices;

5-4 Describe the visual search techniques, including void access and search devices;

5-5 Describe the safety considerations when using visual search devices;

5-6 Explain the set up and operation of the visual search devices; and

5-7 Describe basic field maintenance.

Duration: 8 hours

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 6: Map and Compass

Summary: This module discusses the traditional navigational aids that will be used during a large scale incident. Participants discuss ways to overcome when traditional navigation aides are missing or damages after a large scale incident. This module addresses how search teams need to be able to navigate the incident scene with the aid of map and compass so they may quickly and safely deploying to incident scenes. Participants will also be required to draw basic maps of an incident scene.

Instructional Resources Required:

- Module 6 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to describe the use of the map and compass as navigational aids.

Enabling Objective: At the conclusion of this module, the participants will be able to:

6-1 Identify the primary methods of map and compass navigation;

6-2 Apply basic map reading principles;

6-3 Describe the basic principles of compass navigation; and

6-4 Explain magnetic declination and correctly calculate a heading given a scenario.

Duration: 5 hours

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 7: Global Positioning Satellite (GPS)

Summary: This module discusses the use of global positioning satellite devices during a large scale incident. Participants discuss ways to utilize the unique capabilities of the GPS device to aid in victim search, location, marking, and documentation. This module addresses how search teams need to be able to navigate the incident scene with the aid of GPS so they may quickly and safely deploying to incident scenes. Participants will also be exposed to issues relating to interoperability and errors of the GPS devices and how that relates to an incident response.

Instructional Resources Required:

- Module 7 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to operate the Garmin GPS V™.

Enabling Objective: At the conclusion of this module, the participants will be able to:

7-1 Describe the basic segments and principles of the global positioning satellite (GPS) system;
7-2 Explain waypoints;
7-3 Identify and describe the errors, concerns and considerations related to GPS; and
7-4 Demonstrate the use of the Garmin GPS V™.

Duration: 5 hours 30 minutes

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 8: Risk Analysis

Summary: This module discusses how to mitigate risk to the Disaster Technical Search Specialist when responding to an incident scene. Additionally, this module reviews the components of creating and implementing a functional safety plan as well as the role of the Disaster Technical Search Specialist's role in hazard identification.

Instructional Resources Required:

- Module 8 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to explain the various safety, security, and risk hazard analysis issues associated with a mission.

Enabling Objective: At the conclusion of this module, the participants will be able to:

8-1 Identify the safety and security issues for each phase of a mission;

8-2 Describe the simple mitigation factors;

8-3 Explain the importance of incorporating safety into rescue planning and briefings;

8-4 Describe the Technical Search Specialist's role in safety risk hazard identification; and

8-5 Explain the components of the "LCES" safety plan.

Duration: 1 hour 30 minutes

Method of Instruction: Facilitated seminar format in a classroom environment

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: None

Module 9: Field Exercise

Summary: This module requires participants to demonstrate individual and team skills of a Disaster Technical Search Specialist during a field exercise in Disaster City®. Participants are required to locate conscious and unconscious utilizing listening devices, visual devices, map and compass, and GPS devices during a large scale incident. Each participant will have the opportunity to test their skills under real conditions so they return to their jurisdiction with the necessary knowledge, skills and abilities to successfully perform the position of Disaster Technical Search Specialist on a US&R team.

Instructional Resources Required:

- Module 9 presentation slides
- Participant Manual
- Computer
- Projector

Terminal Learning Objective: Upon the completion of this module, participants will be able to appropriately apply the skills of a Technical Search Specialist in a given scenario.

Enabling Objective: At the conclusion of this module, the participants will be able to:

9-1 Demonstrate the ability to perform an accurate size up;

9-2 Demonstrate the ability to establish a search plan;

9-3 Make appropriate job assignments to perform primary search for the purpose of identifying hazards, victim locations and voids for further electronic search;

9-4 Appropriately mark buildings and voids for hazards and findings;

9-5 Prepare a sketch of a primary search;

9-6 Establish an emergency escape plan and identify a safe zone in a structure;

9-7 Select an appropriate location for deployment of equipment;

9-8 Demonstrate proficiency with the application of listening devices, visual devices and breaching tools; and

9-9 Demonstrate knowledge of safety guidelines and procedures.

Duration: 8 hours

Method of Instruction: Practical exercise in Disaster City®

Instructor Ratio: 1:15

Required Reading: None

Special Instructions: This skill station is primarily an exercise for the students to work on three rubble piles and various collapsed buildings in Disaster City®.

Written Examination

Summary: At the completion of the course the class participants will have one hour to take a 50 question written examination. Participants must receive a score of 80% or greater in order to successfully compete the course.

Instructional Resources Required:

- Disaster Technical Search Specialist Written Examination (one per participant)
- Disaster Technical Search Specialist Written Examination Answer Key

Duration: 1 hour

Course Summary and Evaluation

Summary: At the completion of the course the instructors will conduct an open discussion with class participants about the major lessons of the course and answer any final questions. The participants will then fill out a TEEX Course Feedback Survey for the TEEX US&R Training Office. The Feedback Survey is organized into five parts:

Part I: Course Objectives
Part II: Job-Related Feedback
Part III: Instructor Competency Feedback
Part IV: Course Material Feedback
Part V: General Feedback

Instructional Resources Required:

- TEEX Course Feedback Survey (one per participant)
- Computer
- Projector

Duration: 30 minutes

Reference Material

This program of instruction references a number of Department of Homeland Security documents which are included below for reference:

1. National Planning Scenarios, Department of Homeland Security
   https://odp.esportals.com

2. National Preparedness Guidelines, Department of Homeland Security, September 2007
   http://www.fema.gov/pdf/government/npg.pdf

3. Target Capabilities List (TCL), Department of Homeland Security, September 2007
   http://www.fema.gov/pdf/government/training/tcl.pdf

4. Universal Task List (UTL), Department of Homeland Security, version 2.1
   http://www.ojp.usdoj.gov/odp/docs/UTL2_1.pdf

5. The National Response Framework, Department of Homeland Security
   http://www.fema.gov/emergency/nrf

6. National Incident Management System (NIMS)
   http://www.fema.gov/nims/index.shtm

7. Emergency Support Function 9 (ESF-9), National Response Framework
   http://www.fema.gov/pdf/emergency/nrf/nrf-esf-09.pdf

8. Homeland Security Presidential Directive 5
   http://www.whitehouse.gov/news/releases/2003/02/20030228-9.html

9. Homeland Security Presidential Directive 8
   http://www.whitehouse.gov/news/releases/2003/12/20031217-6.html

10. Office of Grants and Training, Department of Homeland Security
    http://www.dhs.gov/

11. TEEX website
    http://www.teex.org

12. National Fire Protection Association
    http://www.nfpa.org