



DEPARTMENT OF FORESTRY AND FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
State Fire Training Division

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Date: October 16, 2015

Attachment 3

To: Ronny J. Coleman, Chairman
Statewide Training and Education Advisory Committee
c/o State Fire Training

From: Joe Bunn and Kevin Conant, Fire Service Training Specialist III

Subject/Agenda Action Item: FSTEP Incident Management of Special Operations Curriculum (2015)

Recommended Actions: Information/Discussion

Background Information:

The concept of developing FSTEP courses from SFT legacy curriculum and/or developing new curriculum for the purpose of continuing education and professional development was approved by STEAC on April 18, 2014. Accordingly, stakeholders identified the need for the creation of an Incident Management of Special Operations course.

Therefore, a cadre of experienced subject matter experts with extensive technical search and rescue experience were selected from various agencies and backgrounds in the mission to create the content into a new FSTEP course.

Cadre Leadership

Joe Bunn, Deputy Chief (ret) US&R CA-TF8, Kevin Conant, Battalion Chief (ret), US&R CA-TF3, Laura Garwood Meehan, Cadre Editor, Sacramento State.

Development Cadre Members

Liz deDios, Fire Captain, Richmond Fire Department; Lorenzo Gigliotti, Deputy Chief, Cal OES; Paul Gonzales, Fire Engineer, San Jose Fire Department; Charley Hurley, Deputy Chief, LaHabra Heights Fire Department; Carl Kustin, Battalion Chief (ret.), Central County Fire Department; David Reddix, Fire Captain, Los Angeles Fire Department; Joel Vela, Battalion Chief, Cal Fire-RRU.

Several of the cadre members are State Fire Training Registered Instructors and all have extensive operational experience with Special Operations Incidents in technical search and rescue. The development of the material required two multi-day sessions. Because this is a FSTEP Course Plan, the development of a Certification Training Standards (CTS) was not required. However, Terminal Learning Objectives (TLO) were established from the JPR's that typically would be in the CTS. The majority of the TLO's and the supporting Enabling Learning Objectives (ELO) were developed from NFPA 1670 Standard on Operations and Training for Technical Search and Rescue Incidents (2014), and NFPA 1006 Standard for Technical

Rescuer Professional Qualifications (2013.) Additionally, NFPA Standards 1500, 1521 and 1561 aided as supporting documents when creating the Course Plan.

The breakdown of the **24-hour** FSTEP course is as follows:

| Incident Management of Special Operations | |
|--|---------------------|
| Didactic | 15:20 Hours:Minutes |
| Simulations | 7:20 Hours:Minutes |
| Testing | 1:20 Hours:Minutes |

Analysis/Summary of Issue:

Following is an analysis of this new FSTEP course.

1. Neither the old legacy SFT Fire Officer or Chief Officer courses, nor the NFPA Fire Officer I-IV standards addressed the specific hazards and risks faced by an initial incident commander at the scene of a technical search and rescue incident. Therefore, SFT stakeholders requested this new course be created to provide awareness level training in recognizing and safely managing the initial actions of the technical search and rescue incident. Any career or volunteer fire service officer will benefit greatly from the design and content of this course.
2. This brand new course provides Company Officers and Chief Fire Officers with the requisite incident management awareness level training in the knowledge, skills, and abilities for the command and control of the technical search and rescue incident, including rope, structural collapse, confined space, trench and excavation, and water search and rescue.
3. This course is in alignment with the training requirements for the statewide deployment of Cal OES resources by local government agencies responding to all-risk incidents, as well as complimentary to the eight California Task Forces which are part of the National Urban Search and Rescue Program.
4. The core content utilizes NFPA 1006, 1500, 1521, 1561 and 1670 standards, as well as FIRESCOPE, Cal OES and FEMA National Urban Search & Rescue reference material.

The implementation plan for this new course is in development.



Incident Management of Special Operations

Course Plan

Course Details

Description: This course provides an awareness level of knowledge, skills, and abilities for those who are responsible for the command and control of technical search and rescue emergencies, including rope, structural collapse, confined space, trench and excavation, and water search and rescue.

Designed For: Incident commanders

Authority: NFPA 1670 Standard on Operations and Training for Technical Search and Rescue Incidents (2014)
NFPA 1006 Standard for Technical Rescuer Professional Qualifications (2013)
NFPA 1500 Standard on Fire Department Occupational Safety and Health Program (2013)
NFPA 1521 Standard for Fire Department Safety Officer (2015)
NFPA 1561 Standard on Emergency Services Incident Management System and Command Safety (2014)

Prerequisites: Basic Incident Command System I-200

Standard: Attend all classes and participate in all activities.

Hours: Lecture: 15:20
Activities: 7:20
Testing: 1:20

Hours (Total): 24:00

Maximum Class Size: 30

Instructor Level: Primary

Instructor/Student Ratio: 1:30

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Restrictions: None

SFT Designation: FSTEP

DRAFT

Required Resources

Instructor Resources

To teach this course, instructors need:

Fundamentals of Technical Rescue, 2010, Jones and Bartlett, ISBN 9780763738372

Instructors may choose to use:

Fundamentals of Technical Rescue Classroom Package, Jones and Bartlett, ISBN 9780763784133

Fundamentals of Technical Rescue Instructor's Toolkit, 2011, Jones and Bartlett, ISBN 9780763776954

Fundamentals of Technical Rescue Interactive, Version 2.0, 2012, Jones and Bartlett, ISBN 9781449605827

JB TestPrep: Rescue Success, 2011, Jones and Bartlett, ISBN 9780763776961

Online Instructor Resources

The following instructor resources are available online at

<http://osfm.fire.ca.gov/training/instructorscorner.php>:

Incident Management of Special Operations Course Plan

FIRESCOPE Field Operations Guide, ICS 420-1

FIRESCOPE Swiftwater/Flood Search and Rescue: Recommended Training, Skills, and Equipment List, ICS-SF-SAR 020-1

FIRESCOPE Urban Search & Rescue Operational System Description, ICS-US&R-120-1

FIRESCOPE Operational System Description and Law Enforcement Mutual Aid Plan (SAR) Annex, ICS US&R 120-2

Cal OES California Fire Service and Rescue Emergency Mutual Aid System *Urban Search & Rescue Program*

FEMA National Urban Search & Rescue (US&R) Response System *Rescue Field Operations Guide*

FEMA National Urban Search & Rescue (US&R) Response System *Field Operations Guide*

Student Resources

To participate in this course, students need:

Fundamentals of Technical Rescue, 2010, Jones and Bartlett, ISBN 9780763738372

Students may chose to use:

Fundamentals of Technical Rescue Interactive, Version 2.0, 2012, Jones and Bartlett, ISBN 9781449605827

JB TestPrep: Rescue Success, 2011, Jones and Bartlett, ISBN 9780763776961

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Facilities, Equipment, and Personnel

The following facilities, equipment, or personnel are required to deliver this course:
Standard audio-visual equipment

Acknowledgments

State Fire Training gratefully acknowledges the following individuals and organizations for their diligent efforts and contributions that made the development and publication of this document possible.

Cadre Leadership

Joe Bunn

Cadre Leader

Fire Service Training Specialist III, Office of the State Fire Marshal

Kevin Conant

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Laura Garwood Meehan

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Incident Management of Special Operations

Cadre Participants (cont'd)

David Reddix

Fire Captain, Los Angeles Fire Department

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Partners

State Fire Training also extends special acknowledgement and appreciation to the Conference and Training Services Unit with the College of Continuing Education at California State University, Sacramento, for its ongoing meeting logistics and curriculum development support, innovative ideas, and forward-thinking services. This collaboration is made possible through an interagency agreement between CAL FIRE and Sacramento State.

Unit 1: Introduction

Topic 1-1: Orientation and Administration

Terminal Learning Objective

At the end of this topic, a student will be able to identify facility and classroom requirements and identify course objectives, events, requirements, assignments, activities, resources, evaluation methods, and participation requirements in the course syllabus.

Enabling Learning Objectives

1. Identify facility requirements
 - Restroom locations
 - Food locations
 - Smoking locations
 - Emergency procedures
2. Identify classroom requirements
 - Start and end times
 - Breaks
 - Electronic device policies
 - Special needs and accommodations
 - Other requirements as applicable
3. Review course syllabus
 - Course objectives
 - Calendar of events
 - Course requirements
 - Student evaluation process
 - Assignments
 - Activities
 - Required student resources
 - Class participation requirements

Discussion Questions

1. What is a formative test? What is a summative test?

Activities

1. To be determined by the instructor.

Unit 2: Introduction to Special Operations Incidents

Topic 2-1: Describing the Importance of Compliance with Regulations and Standards

Terminal Learning Objective

At the end of this topic, a student, given applicable regulations and standards, will be able to describe the importance of compliance at a special operations (technical rescue) incident.

Enabling Learning Objectives

1. Describe the difference between regulations and standards
2. List the regulations and standards affecting the rescue community
3. Describe the role of OSHA regulations
4. Describe the role of other state and federal regulations and emergency management plans and procedures

Discussion Questions

1. What kind of incidents will you encounter in your jurisdiction?
2. What OSHA regulations limit an agency's activities at a technical rescue incident?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.
2. The instructor should refer to the current applicable regulations and standards, including OSHA. Visit the NFPA and OSHA websites for current regulations and standards.

Topic 2-2: Determining the Employer's Responsibility

Terminal Learning Objective

At the end of this topic, a student, given the appropriate regulations and standards, will be able to determine the employer's responsibility to ensure designated rescue personnel are certified, competent, and qualified to perform specific duties associated with a special operations (technical rescue) incident.

Enabling Learning Objectives

1. Describe examples of how an employer qualifies personnel to perform technical rescue
 - Policies and procedures
 - Education and training
 - Experience
 - Required equipment
 - Maintaining employee proficiency (recertification training, currency)
2. Describe the variety of technical rescue training classes offered to fire service personnel
 - Rope rescue

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- Structural collapse search and rescue
- Confined space search and rescue
- Water (dive, ice, surf, surface, and swiftwater) search and rescue
- Trench and excavation search and rescue

Discussion Questions

1. How does the incident commander validate competency of technical rescue responders?
2. How does a responder maintain proficiency in technical rescue?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-3: Identifying Training Requirements

Terminal Learning Objective

At the end of this topic, a student, given the organization's identified operational capability, will be able to identify the training requirements for the associated responsibilities.

Enabling Learning Objectives

1. Identify that the minimum level of training for all personnel is the awareness level
2. Identify the training required for organizations expected to perform at a higher operational level
3. Identify the continuing education necessary to maintain all requirements
4. Identify the annual performance evaluation requirements
5. Identify the requirements for evaluation of the training program to determine whether the training has prepared the organization to function at the established operational level under:
 - Abnormal weather conditions
 - Extremely hazardous operational conditions
 - Other difficult situations

Discussion Questions

1. What resources can an agency utilize to determine the training requirements for technical rescue?
2. What are the annual performance evaluation requirements for technical rescue competency?

Activities

1. None

Instructor Notes

None

Topic 2-4: Determining the Level of Operational Capability

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Terminal Learning Objective

At the end of this topic, a student, given their agency as a primary resource, will be able to determine the established level of operational capability needed to conduct operations at a technical search and rescue incident.

Enabling Learning Objectives

1. Identify the three levels of operational capability
 - Awareness level
 - Operations level
 - Technician level

Discussion Questions

1. How do you identify the operational capability of your organization?
2. What differentiates the three levels of operational capability?

Activities

1. None

Instructor Notes

None

Topic 2-5: Identifying Operational Procedures

Terminal Learning Objective

At the end of this topic, a student, given their agency's established operational capability, will be able to identify operational procedures to minimize threats to rescuers and others at a technical search and rescue incident.

Enabling Learning Objectives

1. Identify the three levels of operational procedures
 - Awareness level
 - Operations level
 - Technician level

Discussion Questions

1. Describe the importance of standard operating procedures in minimizing threats to rescuers and others.
2. What are your agency's technical rescue standard operating procedures?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-6: Identifying the Documentation of Training

Terminal Learning Objective

At the end of this topic, a student, given their agency as a primary resource, will be able to identify the documentation for all required training.

Enabling Learning Objectives

1. Identify the requirements for maintaining and keeping documentation available for inspection
2. Identify the requirements specified in NFPA 1670, chapter 4, and all relevant requirements of chapters 5 through 17

Discussion Questions

1. What kind of documentation does your agency require to maintain training records?
2. Why is maintaining training records important?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-7: Identifying the Procedure for Emergency Evacuation During Imminent Hazardous Conditions

Terminal Learning Objective

At the end of this topic, a student, given their agency as a primary resource, will be able to identify the standard operating procedure to evacuate members from an area and to account for their safety when an imminent hazard condition is discovered.

Enabling Learning Objectives

1. Identify the method for notifying all members in the affected area, including:
 - Audible warning devices
 - Visual signals
 - Radio signals
2. Identify compliance with all applicable local, state, and federal laws
3. Identify relevant components of applicable national, state, and local response plans

Discussion Questions

1. What are your agency's standard operating procedures for emergency evacuation?
2. Under what conditions would your agency implement these procedures?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-8: Determining the Feasibility of Technical Search and Rescue Operations

Terminal Learning Objective

At the end of this topic, a student, given the response area of the AHJ, will be able to use hazard identification and risk assessment to determine the feasibility of conducting technical search and rescue operations.

Enabling Learning Objectives

1. Identify the components of the hazard identification and risk assessment:
 - Evaluation of the environmental, physical, social, and cultural factors influencing the scope, frequency, and magnitude of a potential technical search and rescue incident
 - Evaluation of the impact these factors might have on the ability of the AHJ to respond to and to operate while minimizing threats to rescuers at those incidents
2. Identify the requirements for documentation of hazard identification and risk assessment
 - The hazard identification and risk assessment shall be reviewed and updated on a scheduled basis and as operational or organizational changes occur
 - At intervals determined by the AHJ, the AHJ shall conduct surveys in the organization's response area for the purpose of identifying the types of technical search and rescue incidents that are most likely to occur
3. Describe the purpose, components, and benefits of performing a needs analysis

Discussion Questions

1. What is your agency's hazard identification and risk assessment process to determine the scope of your technical rescue response plan?
2. Describe the importance of risk analysis in any technical rescue operation.
3. Why is it important to continually review and update the hazard identification and risk assessment?

Activities

1. The instructor may create an activity directing students to perform a needs assessment for their response area.

Instructor Notes

None

Topic 2-9: Identifying and Maintaining a List of Resources

Terminal Learning Objective

At the end of this topic, a student, given the response area of the AHJ, will be able to identify the type and maintain a list of availability of resources needed for technical search and rescue incidents.

Enabling Learning Objectives

1. Identify internal resources
2. Identify external resources (mutual aid)
3. Identify procedures for the acquisition of external resources

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4. Identify the urban search and rescue resource types listed in the FIRESCOPE ICS-US&R-120-1

Discussion Questions

1. Explain the importance of currency as it relates to available resources for a technical rescue incident.
2. What resources are available outside of your AHJ?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-10: Identifying the Documentation of Procedures in the Incident Response Plan

Terminal Learning Objective

At the end of this topic, a student, given their agency, will be able to identify the documentation of procedures for a technical search and rescue emergency response in the special operations incident response plan.

Enabling Learning Objectives

1. Identify the requirement for the plan to be a formal, written document
2. Describe the development of mutual aid agreements where external resources are required to achieve a desired level of operational capability
3. Describe the distribution of the plan to agencies, departments, and employees having responsibilities designated in the plan
4. Identify the record of all stakeholders in the plan and the method for issuing all changes or revisions
5. Identify the AHJ's formal, documented approval process for the plan, and the coordination with participating agencies and organizations

Discussion Questions

1. Why do external resources need copies of your incident response plan?
2. Who are the stakeholders in your agency's incident response plan?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-11: Identifying Appropriate Equipment

Terminal Learning Objective

At the end of this topic, a student, given their agency, will be able to identify equipment commensurate with the respective operational capabilities for operations at technical search and rescue incidents and training exercises.

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Enabling Learning Objectives

1. Describe the use and maintenance of all equipment according to the manufacturers' instructions
2. Describe the development and use of procedures for the inventory and accountability of all equipment

Discussion Questions

1. Describe the importance of knowing your equipment's safety limitations with regards to a technical rescue.
2. What system does your agency use to maintain inventory of all equipment?
3. How do your incident commanders gain access to your technical rescue equipment inventory in the field?

Activities

1. None

Instructor Notes

None

Topic 2-12: Describing the Training Related to Hazards and Risks

Terminal Learning Objective

At the end of this topic, a student, given their agency, will be able to describe the training related to the hazards and risks associated with technical search and rescue operations, including the use of PPE, to minimize the threats to rescuers.

Enabling Learning Objectives

1. Describe the relevant requirements of the following chapters or sections of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, that members assigned duties and functions at technical search and rescue incidents and training exercises must meet:
 - Section 5.4, Special Operations Training
 - Chapter 7, Protective Clothing and Protective Equipment
 - Chapter 8, Emergency Operations

Discussion Questions

1. What different kinds of PPE are required for water, rope, trench, confined space, and structural collapse search and rescue?
2. In addition to those dictated by NFPA standards, what OSHA requirements impact PPE and training related to hazards and risk?

Activities

1. The instructor may create an activity in which the students review the five disciplines (rope, water, trench, confined space, structural collapse) as they relate to the sections and chapters in the above health and safety standards and present their work to the group.

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Instructor Notes

None

Topic 2-13: Describing the Process for Selecting a Safety Officer

Terminal Learning Objective

At the end of this topic, a student, given their agency, will be able to describe the process for selecting a member to be assigned to fulfill the duties of a safety officer.

Enabling Learning Objectives

1. Identify the safety officer's specific technical knowledge
2. Identify the safety officer's specific responsibilities:
 - The identification of hazardous conditions and unsafe practices specific to the operational capabilities employed
 - Evaluation of hazardous conditions and unsafe practices specific to the operational capabilities employed
 - Correction of hazardous conditions and unsafe practices specific to the operational capabilities employed where possible
3. Describe the circumstances requiring the assignment of an assistant safety officer with discipline-specific training.

Discussion Questions

1. According to NFPA, what training and certification are required for the various disciplines?
2. What critical factors need to be discussed at the safety briefing?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 2-14: Describing the Implementation of an Incident Management System

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to describe the implementation of an incident management system that meets the requirements of NFPA 1561, Standard on Emergency Services Incident Management System and Command Safety.

Enabling Learning Objectives

1. Describe the standard operating procedures applying to all members involved in emergency operations
2. Identify the need for all members involved in emergency operations to be familiar with the system
3. Describe the implementation of an incident accountability system
4. Describe the rotation of personnel to reduce stress and fatigue

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5. Describe the method for ensuring that all personnel are aware of the potential impact of their operations on the safety and welfare of rescuers and others, as well as on other activities at the incident site
6. Describe the provision of supervisors who possess skills and knowledge commensurate with the operational level identified in NFPA 1670, paragraph 4.1.4, (awareness, operations, and technician) at all technical search and rescue incidents
7. Describe the process to ensure that members are psychologically, physically, and medically capable to perform assigned duties and functions at technical search and rescue incidents and to perform training exercises in accordance with Chapter 10 of NFPA 1500, Standard on Fire Department Occupational Safety and Health Program

Discussion Questions

8. What is your agency's procedure for ensuring responder rehabilitation at an incident?
9. Why is it critical that the incident commander consider the assignment of a rescue group supervisor on a technical rescue?
10. What is your agency's fitness for duty process to ensure members are capable of performing at a technical rescue?

Activities

1. To be determined by the instructor.

Instructor Notes

1. When discussing standard operation procedures, the instructor must cover relevant tactical worksheets (such as NFPA 1521 [2015] Annex C) and other associated job aids.

Unit 3: Rope Rescue

Topic 3-1: Recognizing the Need for a Rope Rescue

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to recognize the need for a rope rescue.

Enabling Learning Objectives

1. Recognize the difference between rescue and recovery operations
2. Recognize the difference between low-angle and high-angle rescue operations
3. Describe nonentry rescue considerations

Discussion Questions

1. What critical factors should you consider during a rope-rescue size-up?
2. What nonentry actions can responders take prior to the arrival of a technical rescue resource?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.

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Topic 3-2: Identifying Necessary Resources for Rope Rescue

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to identify resources necessary to conduct rope rescue operations.

Enabling Learning Objectives

1. Determine the appropriate level of training and qualification required for the incident:
 - Awareness
 - Operations
 - Technician
2. Identify various types of rescue incidents that require rope rescue equipment and rope rescue skills

Discussion Questions

1. Which types of resources are needed to conduct a high-angle rope-rescue incident? Which types are needed to conduct a low-angle rope-rescue incident?
2. What rope-rescue mutual aid resources exist in your region?
3. How and when does an incident commander access state resources?

Activities

1. To be determined by the instructor.

Instructor Notes

1. Refer to FIRESCOPE 120-1.

Topic 3-3: Recognizing and Mitigating Rope-Rescue Hazards

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to recognize general hazards associated with rope rescue and the procedures necessary to mitigate these hazards.

Enabling Learning Objectives

1. Recognize and identify fall hazards and other hazards commonly found at rope rescue incidents
2. Identify applicable safety regulations pertaining to rope rescue incident hazards
3. Identify procedures necessary to mitigate fall and other hazards
 - Use the risk management process to mitigate all identified hazards

Discussion Questions

1. What basic hazard-mitigation steps can responders take to control the site prior to the arrival of trained rope-rescue teams?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 3-4: Identifying and Using PPE for Rope Rescue

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to identify and use PPE assigned for use at a rope rescue incident.

Enabling Learning Objectives

1. Identify PPE for a rope rescue incident
2. Use identified PPE

Discussion Questions

1. How does the incident commander ensure that the appropriate level of PPE is being used at a rope-rescue incident?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 3-5: Carrying out Site Control and Scene Management

Terminal Learning Objective

At the end of this topic, a student, given a technical rescue incident, will be able to carry out site control and scene management.

Enabling Learning Objectives

1. Identify procedures for establishing perimeter control
 - Isolate and deny entry
2. Describe site-control operations
3. Identify procedures for establishing operational zones

Discussion Questions

1. What site-control actions can address the primary hazards at a rope-rescue incident?
2. What is the purpose of establishing operational zones?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Unit 4: Structural Collapse Search and Rescue

Topic 4-1: Recognizing the Need for Structural Collapse Search and Rescue

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to recognize the need for structural collapse search and rescue.

Enabling Learning Objectives

1. Recognize the difference between rescue and recovery operations
2. Conducting reconnaissance (recon) of the structure(s) and surrounding area
 - Identify various types of incidents that require structural collapse search and rescue equipment and skills
3. Describe the various types of structural collapse events

Discussion Questions

1. Why is it critical to determine if an incident is a rescue operation or a recovery operation?
2. What initial actions can be taken by first responders at the scene of a structural collapse?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.

Topic 4-2: Identifying the Difference Between Technical and Nontechnical Search Operations

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to identify the difference between a nontechnical and a technical search operation.

Enabling Learning Objectives

1. Describe considerations for a nontechnical search operation
 - Rapid/hasty search
2. Describe considerations for a technical search operation
 - Primary
 - Secondary
 - Special
 - Detection
 - Location

Discussion Questions

1. What critical factors must be considered in determining technical-search resources?
2. What advantages do canine search teams provide in a technical-search operation?

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Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 4-3: Identifying the Difference Between Technical and Nontechnical Rescue Operations

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to identify the difference between a nontechnical and a technical rescue operation.

Enabling Learning Objectives

1. Describe considerations for a nontechnical rescue operation
 - Remove readily accessible victims from structural collapse incidents
 - Nonentry/hailing
 - Identify a FIRESCOPE Type 4 basic rescue: surface rescue and nonstructural entrapment
2. Describe considerations for a technical rescue operation
 - Building construction considerations
 - Light
 - Medium
 - Heavy

Discussion Questions

1. What actions can first responders take in a nontechnical rescue operation?
2. How does building construction affect collapse patterns and potential voids for possible victims?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 4-4: Identifying the Resources Needed for Structural Collapse Search and Rescue

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to identify the resources necessary to conduct structural collapse search and rescue operations.

Enabling Learning Objectives

1. Determine the appropriate level of training and qualification required for the incident:
 - Awareness
 - Operations

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- Technician

Discussion Questions

1. How can FIREScope ICS and Cal OES job aids assist an incident commander in determining the appropriate resources for a structural collapse incident?
2. According to FIREScope ICS, what are the four levels of US&R operational capability?
3. What structural collapse operational capability does your agency provide?
4. According to Cal OES, what are the locations of the eight FEMA urban search and rescue task forces?
5. What regional urban search and rescue resources are in or near your operational area?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 4-5: Recognizing the General Hazards Associated with Structural Collapse Incidents

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to recognize the general hazards associated with structural collapse incidents, including recognizing applicable construction types and categories and the expected behaviors of components and materials in a structural collapse.

Enabling Learning Objectives

1. Identify building construction types and their associated collapse characteristics
2. Identify the types of collapse patterns and potential victim locations
3. Recognize the potential for secondary collapse
4. Conduct visual and verbal searches at structural collapse incidents, while using approved methods for the specific type of collapse
5. List the types of collapse void patterns
6. Identify applicable safety regulations pertaining to structural collapse incidents

Discussion Questions

1. How do the general construction categories and their associated collapse characteristics relate to potential void spaces?
2. What hazards are associated with each of the general construction categories?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 4-6: Recognizing and Implementing Marking Systems

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to recognize and implement a search and rescue/search assessment marking system, building marking system (structure/hazard evaluation), victim location marking system, and structure marking system (structure identification within a geographic area), such as the ones used by the FEMA Urban Search and Rescue System.

Enabling Learning Objectives

1. Describe the FEMA US&R search, building, victim location, and structure marking systems
2. Describe the FIRESCOPE search, building, victim location, and structure marking systems

Discussion Questions

1. Which marking system do you use in your jurisdiction, FEMA US&R or the FIRESCOPE system?
2. What is the difference between the FEMA US&R and the FIRESCOPE marking system?
3. Why is a common marking system critical in structural-collapse incidents?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 4-7: Initiating Site Control and Scene Management

Terminal Learning Objective

At the end of this topic, a student, given a structural collapse incident, will be able to initiate site control and scene management.

Enabling Learning Objectives

1. Identify procedures for establishing perimeter control
 - Isolate and deny entry
2. Describe site-control operations
3. Identify procedures for establishing operational zones
 - Identify and establish a collapse safety zone

Discussion Questions

1. What are the primary hazards at a structural-collapse incident?
2. What is the purpose of establishing operational zones?
3. What are the operational objectives of a structural-collapse incident?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Unit 5: Confined Space Search and Rescue

Topic 5-1: Recognizing the Need for Confined Space Search and Rescue

Terminal Learning Objective

At the end of this topic, a student, given a confined space incident, will be able to recognize the need for confined space search and rescue.

Enabling Learning Objectives

1. Recognize the difference between rescue and recovery operations
 - Initiate contact and establish communications with victims where possible
2. Describe nonentry rescue considerations

Discussion Questions

1. What criteria must be present to determine the existence of a confined space?
2. What actions can an awareness-level-trained first responder take at a confined space incident?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.

Topic 5-2: Identifying Resources for Confined Space Rescue Operations

Terminal Learning Objective

At the end of this topic, a student, given a confined space incident, will be able to identify resources necessary to conduct confined spaces rescue operations.

Enabling Learning Objectives

1. Determine the appropriate level of training and qualification required for the incident:
 - Awareness
 - Operations
 - Technician
2. Implement the emergency response system for confined space emergencies

Discussion Questions

1. What is your agency's level of operational capability for confined-space search and rescue?
2. Where are your closest confined-space search and rescue mutual-aid resources?

Activities

1. To be determined by the instructor.

Instructor Notes

1. Refer to FIRESCOPE ICS US&R 120-1.

Topic 5-3: Recognizing Hazards Associated with Nonentry Confined Space Emergencies

Terminal Learning Objective

At the end of this topic, a student, given a confined space incident, will be able to recognize and identify the hazards associated with nonentry confined space emergencies.

Enabling Learning Objectives

1. Recognize and identify hazards commonly found at confined space incidents
2. Identify applicable safety regulations pertaining to confined space incident hazards
3. Identify procedures necessary to mitigate confined space hazards
 - Initiate confined-space entry permit process
 - Use the risk management process to mitigate all identified hazards

Discussion Questions

1. What are the common hazards of a permit-required confined space?
2. What type of nonentry rescue procedures can an awareness-level-trained first responder provide at the scene of a confined-space incident?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 5-4: Implementing Site Control and Scene Management

Terminal Learning Objective

At the end of this topic, a student, given a confined space incident, will be able to implement site control and scene management.

Enabling Learning Objectives

1. Identify procedures for establishing perimeter control
 - Isolate and deny entry
2. Describe site-control operations
3. Identify procedures for establishing operational zones

Discussion Questions

1. What is the purpose of establishing operational zones?
2. What role does isolating and denying entry play in establishment of operational control zones?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Unit 6: Water Search and Rescue

Topic 6-1: Recognizing the Need for Water Search and Rescue

Terminal Learning Objective

At the end of this topic, a student, given a water search and rescue incident, will be able to recognize the need for water search and rescue and implement the assessment phase.

Enabling Learning Objectives

1. Determine rescue versus body recovery
 - Initiate contact and establish communications with victims where possible
2. Describe nonentry rescue considerations at a water rescue incident
 - Evaluate subject's condition and ability to assist with his or her own rescue
3. Describe the various types of water rescue incidents
 - Dive
 - Ice
 - Surf
 - Surface
 - Swift water
 - Flood

Discussion Questions

1. What critical factors should you consider in sizing up a water search and rescue incident?
2. What nonentry actions can an awareness-level-trained first responder take at a water-rescue event?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.

Topic 6-2: Identifying Resources for Water Search and Rescue Operations

Terminal Learning Objective

At the end of this topic, a student, given a water search and rescue incident, will be able to identify resources necessary to conduct water search and rescue operations.

Enabling Learning Objectives

1. Determine the appropriate level of training and qualification required for the incident:
 - Awareness
 - Operations
 - Technician
2. Implement the emergency response system for water emergencies

Discussion Questions

1. What is your agency's level of operational capability for water search and rescue?
2. Where are your closest water search and rescue mutual-aid resources?

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Activities

1. To be determined by the instructor.

Instructor Notes

1. Refer to FIRESCOPE ICS US&R 120-2.

Topic 6-3: Recognizing Hazards Associated with Water Incidents

Terminal Learning Objective

At the end of this topic, a student, given a water search and rescue incident, will be able to recognize the general hazards associated with water incidents and the procedures necessary to mitigate these hazards within the general search and rescue area.

Enabling Learning Objectives

1. Identify applicable safety regulations pertaining to water-rescue incidents
2. Recognize and identify specific hazards commonly found at various kinds of water-rescue incidents
3. Identify procedures necessary to mitigate water-rescue hazards
 - Use the risk management process to mitigate all identified hazards

Discussion Questions

1. What hazards does fire-fighting PPE present at a water-rescue incident?
2. How does preplanning help mitigate water search and rescue hazards?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 6-4: Implementing Site Control and Scene Management

Terminal Learning Objective

At the end of this topic, a student, given a water search and rescue incident, will be able to implement site control and scene management.

Enabling Learning Objectives

1. Identify procedures for establishing perimeter control
 - Isolate and deny entry
2. Describe site-control operations
3. Identify procedures for establishing operational zones

Discussion Questions

1. What is the relationship between PPE and operational control zones at water search and rescue incidents?
2. What is the role of mapping water movement in the establishment of control zones?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Unit 7: Trench and Excavation Search and Rescue

Topic 7-1: Recognizing the need for a Trench and Excavation Rescue

Terminal Learning Objective

At the end of this topic, a student, given a trench or excavation search and rescue incident, will be able to recognize the need for a trench and excavation rescue.

Enabling Learning Objectives

1. Recognize the difference between rescue and recovery operations
 - Initiate contact and establish communications with victims where possible
2. Initiate a rapid, nonentry extrication of noninjured or minimally injured victims
 - Place a ladder to allow a victim to perform self-rescue
 - Allow uninjured persons already in the trench to remove a victim

Discussion Questions

1. What are the critical factors during a trench or excavation incident size-up?
2. What nonentry actions can first responders take at the scene of a trench or excavation incident?

Activities

1. To be determined by the instructor.

Instructor Notes

1. A set amount of activity time has been allotted for each unit. It is up to the instructor to determine how to use this.
2. The instructor should reinforce that during a nonentry extrication, nobody should enter an unprotected trench under any circumstances. The persons allowed to remove a noninjured or minimally injured victim (not a trapped victim) must only be persons who were already in the trench. Rescuers and other responders may never enter a trench that has not been properly shored or protected by a trench shield or by proper sloping or benching systems.

Topic 7-2: Identifying the Resources Necessary to Conduct Trench and Excavation Emergency Operations

Terminal Learning Objective

At the end of this topic, a student, given a trench or excavation search and rescue incident, will be able to identify the resources necessary to conduct safe and effective trench and excavation emergency operations.

Enabling Learning Objectives

1. Determine the appropriate level of training and qualification required for the incident:
 - Awareness
 - Operations

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- Technician
2. Implement the emergency response system for trench and excavation search and rescue incidents

Discussion Questions

1. What is your agency's level of operational capability for trench and excavation search and rescue?
2. Where are your closest trench and excavation search and rescue mutual-aid resources?
3. What non-public-safety resources might you consider using for trench and excavation search and rescue incidents?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 7-3: Recognizing Hazards Associated with Trench and Excavation Incidents

Terminal Learning Objective

At the end of this topic, a student, given a trench or excavation search and rescue incident, will be able to recognize general hazards associated with trench and excavation emergency incidents and the procedures necessary to mitigate these hazards within the general rescue area.

Enabling Learning Objectives

1. Identify applicable safety regulations pertaining to trench and excavation search and rescue incidents
2. Identify procedures necessary to mitigate trench and excavation hazards
 - Use the risk management process to mitigate all identified hazards
3. Recognize typical trench and excavation collapse patterns
4. Recognize the reasons trenches and excavations collapse
5. Recognize the potential for secondary collapse

Discussion Questions

1. What are some causes of trench collapse?
2. Why does response route and parking location of your apparatus matter at a trench or excavation search and rescue incident?
3. How should you search for victims at a trench or excavation collapse event?

Activities

1. To be determined by the instructor.

Instructor Notes

None

Topic 7-4: Implementing Site Control and Scene Management

Terminal Learning Objective

At the end of this topic, a student, given a trench and excavation search and rescue incident, will be able to implement site control and scene management.

Enabling Learning Objectives

1. Identify procedures for establishing perimeter control
 - Isolate and deny entry
2. Describe site-control operations
3. Identify procedures for establishing operational zones

Discussion Questions

1. How do weather conditions impact site control at trench and excavation search and rescue incidents?
2. How do appropriate notification and proper scene marking assist with identifying control zones?

Activities

1. To be determined by the instructor.

Instructor Notes

None

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Time Table

| Segment | Lecture Time | Activity Time | Total Unit Time |
|---|--------------|---------------|-----------------|
| Unit 1: Introduction | | | |
| Topic 1-1: Orientation and Administration | | | |
| Lecture | 1:30 | | |
| Activity 1-1: To be determined by instructor | | 0:00 | |
| Unit 1 Totals | 1:30 | 0:00 | 1:30 |
| Unit 2: Introduction to Special Operations Incidents | | | |
| Topic 2-1: Describing the Importance of Compliance with Regulations and Standards | | | |
| Lecture | 0:15 | | |
| Activity 2-1: To be determined by instructor | | 0:00 | |
| Topic 2-2: Determining the Employer's Responsibility | | | |
| Lecture | 0:15 | | |
| Activity 2-2: To be determined by instructor | | 0:00 | |
| Topic 2-3: Identifying Training Requirements | | | |
| Lecture | 0:15 | | |
| Activity 2-3: None | | 0:00 | |
| Topic 2-4: Determining the Level of Operational Capability | | | |
| Lecture | 0:15 | | |
| Activity 2-4: None | | 0:00 | |
| Topic 2-5: Identifying Operational Procedures | | | |
| Lecture | 0:15 | | |
| Activity 2-5: To be determined by instructor | | 0:00 | |
| Topic 2-6: Identifying the Documentation of Training | | | |
| Lecture | 0:15 | | |
| Activity 2-6: None | | 0:00 | |

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| Segment | Lecture Time | Activity Time | Total Unit Time |
|--|--------------|---------------|-----------------|
| Topic 2-7: Identifying the Procedure for Emergency Evacuation During Imminent Hazardous Conditions | | | |
| Lecture | 0:15 | | |
| Activity 2-7: To be determined by instructor | | 0:00 | |
| Topic 2-8: Determining the Feasibility of Technical Search and Rescue Operations | | | |
| Lecture | 0:15 | | |
| Activity 2-8: To be determined by instructor | | 0:00 | |
| Topic 2-9: Identifying and Maintaining a List of Resources | | | |
| Lecture | 0:15 | | |
| Activity 2-9: To be determined by instructor | | 0:00 | |
| Topic 2-10: Identifying the Documentation of Procedures in the Incident Response Plan | | | |
| Lecture | 0:15 | | |
| Activity 2-10: To be determined by instructor | | 0:00 | |
| Topic 2-11: Identifying Appropriate Equipment | | | |
| Lecture | 0:15 | | |
| Activity 2-11: None | | 0:00 | |
| Topic 2-12: Describing the Training Related to Hazards and Risks | | | |
| Lecture | 0:15 | | |
| Activity 2-12: To be determined by instructor | | 0:00 | |
| Topic 2-13: Describing the Process for Selecting a Safety Officer | | | |
| Lecture | 0:15 | | |
| Activity 2-13: To be determined by instructor | | 0:00 | |
| Topic 2-14: Describing the Implementation of an Incident Management System | | | |

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| Segment | Lecture Time | Activity Time | Total Unit Time |
|---|--------------|---------------|-----------------|
| Lecture | 0:15 | | |
| Activity 2-14: To be determined by instructor | | 0:00 | |
| Unit 2 Totals | 3:30 | 1:00 | 4:30 |
| Unit 3: Rope Rescue | | | |
| Topic 3-1: Recognizing the Need for a Rope Rescue | | | |
| Lecture | 0:25 | | |
| Activity 3-1: To be determined by instructor | | 0:00 | |
| Topic 3-2: Identifying Necessary Resources for Rope Rescue | | | |
| Lecture | 0:20 | | |
| Activity 3-2: To be determined by instructor | | 0:00 | |
| Topic 3-3: Recognizing and Mitigating Rope-Rescue Hazards | | | |
| Lecture | 0:20 | | |
| Activity 3-3: To be determined by instructor | | 0:00 | |
| Topic 3-4: Identifying and Using PPE for Rope Rescue | | | |
| Lecture | 0:20 | | |
| Activity 3-4: To be determined by instructor | | 0:00 | |
| Topic 3-5: Carrying out Site Control and Scene Management | | | |
| Lecture | 0:35 | | |
| Activity 3-5: To be determined by instructor | | 0:00 | |
| Unit 3 Totals | 2:00 | 1:20 | 3:20 |
| Unit 4: Structural Collapse Search and Rescue | | | |
| Topic 4-1: Recognizing the Need for Structural Collapse Search and Rescue | | | |
| Lecture | 0:20 | | |
| Activity 4-1: To be determined by instructor | | 0:00 | |

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| Segment | Lecture Time | Activity Time | Total Unit Time |
|--|--------------|---------------|-----------------|
| Topic 4-2: Identifying the Difference Between Technical and Nontechnical Search Operations | | | |
| Lecture | 0:20 | | |
| Activity 4-2: To be determined by instructor | | 0:00 | |
| Topic 4-3: Identifying the Difference Between Technical and Nontechnical Rescue Operations | | | |
| Lecture | 0:20 | | |
| Activity 4-3: To be determined by instructor | | 0:00 | |
| Topic 4-4: Identifying the Resources Needed for Structural Collapse Search and Rescue | | | |
| Lecture | 0:20 | | |
| Activity 4-4: To be determined by instructor | | 0:00 | |
| Topic 4-5: Recognizing the General Hazards Associated with Structural Collapse Incidents | | | |
| Lecture | 0:20 | | |
| Activity 4-5: To be determined by instructor | | 0:00 | |
| Topic 4-6: Recognizing and Implementing Marking Systems | | | |
| Lecture | 0:20 | | |
| Activity 4-6: To be determined by instructor | | 0:00 | |
| Topic 4-7: Initiating Site Control and Scene Management | | | |
| Lecture | 0:20 | | |
| Activity 4-7: To be determined by instructor | | 0:00 | |
| Unit 4 Totals | 2:20 | 1:00 | 3:20 |
| Unit 5: Confined Space Search and Rescue | | | |
| Topic 5-1: Recognizing the Need for Confined Space Search and Rescue | | | |

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| Segment | Lecture Time | Activity Time | Total Unit Time |
|--|--------------|---------------|-----------------|
| Lecture | 0:30 | | |
| Activity 5-1: To be determined by instructor | | 0:00 | |
| Topic 5-2: Identifying Resources for Confined Space Rescue Operations | | | |
| Lecture | 0:30 | | |
| Activity 5-2: To be determined by instructor | | 0:00 | |
| Topic 5-3: Recognizing Hazards Associated with Nonentry Confined Space Emergencies | | | |
| Lecture | 0:30 | | |
| Activity 5-3: To be determined by instructor | | 0:00 | |
| Topic 5-4: Implementing Site Control and Scene Management | | | |
| Lecture | 0:30 | | |
| Activity 5-5: To be determined by instructor | | 0:00 | |
| Unit 5 Totals | 2:00 | 1:20 | 3:20 |
| Unit 6: Water Search and Rescue | | | |
| Topic 6-1: Recognizing the Need for Water Search and Rescue | | | |
| Lecture | 0:30 | | |
| Activity 6-1: To be determined by instructor | | 0:00 | |
| Topic 6-2: Identifying Resources for Water Search and Rescue Operations | | | |
| Lecture | 0:30 | | |
| Activity 6-2: To be determined by instructor | | 0:00 | |
| Topic 6-3: Recognizing Hazards Associated with Water Incidents | | | |
| Lecture | 0:30 | | |
| Activity 6-3: To be determined by instructor | | 0:00 | |
| Topic 6-4: Implementing Site Control and Scene Management | | | |

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| Segment | Lecture Time | Activity Time | Total Unit Time |
|--|--------------|---------------|-----------------|
| Lecture | 0:30 | | |
| Activity 6-4: To be determined by instructor | | 0:00 | |
| Unit 6 Totals | 2:00 | 1:20 | 3:20 |
| Unit 7: Trench and Excavation Search and Rescue | | | |
| Topic 7-1: Recognizing the Need for a Trench and Excavation Rescue | | | |
| Lecture | 0:30 | | |
| Activity 7-1: To be determined by instructor | | 0:00 | |
| Topic 7-2: Identifying the Resources Necessary to Conduct Trench and Excavation Emergency Operations | | | |
| Lecture | 0:30 | | |
| Activity 7-2: To be determined by instructor | | 0:00 | |
| Topic 7-3: Recognizing Hazards Associated with Trench and Excavation Incidents | | | |
| Lecture | 0:30 | | |
| Activity 7-3: To be determined by instructor | | 0:00 | |
| Topic 7-4: Implementing Site Control and Scene Management | | | |
| Lecture | 0:30 | | |
| Activity 7-4: To be determined by instructor | | 0:00 | |
| Unit 7 Totals | 2:00 | 1:20 | 3:20 |
| Lecture, Activity, and Unit Totals: | 15:20 | 7:20 | 22:40 |

Course Totals

| | |
|--------------------------|--------------|
| Total Lecture Time (LT) | 15:20 |
| Total Activity Time (AT) | 7:20 |
| Total Testing Time (TT) | 1:20 |
| Total Course Time | 24:00 |