INCIDENT COMMAND SYSTEM

Technical Search and Rescue Incident Operational System Description FIRESCOPE ICS 162

October 2022

This document contains information relative to the Incident Command System (ICS) component of the National Interagency Incident Management System (NIIMS). This is the same Incident Command System developed by FIRESCOPE. Knowledge of the Incident Command System is required to understand the terminology and variety of ways in which the management of resources can be applied.

Additional information and documentation can be obtained from the following sources:

OES - FIRESCOPE - OCC
Document Control
23300 Castle Street
Riverside, Ca 92518
(951) 782-4174
Fax (951) 782-4239
www.firescope.caloes.ca.gov

DEDICATION

The FIRESCOPE organization is made up of dedicated individuals whose focus is on continually improving the incident command system, which is applied daily toward mitigating the ever-challenging incidents California's fire service encounters. As members of the technical search and rescue sub-committee, our aim is supplying solutions specific to our discipline that support the goals mentioned above. We genuinely love what we do and enjoy working together in service to our communities. In the process, we have had the privilege to work with many great people who are true "subject-matter experts". The fire service lost a brother, friend, leader, mentor, and team member when Los Angeles Fire Department Captain II John Ruedy passed away on May 22, 2021. John was a true professional. He was detail oriented and laser focused on supplying the best solutions in a practical fashion for all who would consult FIRESCOPE products for guidance.

We dedicate this document to his memory. John worked hard with this group for many years. He patiently helped many of us gain our footing as newly added members to the group. He worked hard on this and earlier revisions of the Technical Search and Rescue Operating System Description. He worked hard in his final assignment, which directly supported US&R operations for the City of Los Angeles. Our goal is to emulate him as best we can as we strive to continue his legacy of excellence in public service. He is and will continue to be greatly missed.

Table of Contents

Introduction

The FIRESCOPE ICS 162 Technical Search and Rescue Incident Operational System Description is designed to provide supervision and control of essential functions at incidents where technical rescue expertise and equipment are needed for safe and effective operations. This standard shall identify and establish levels of capability for conducting safe operations at technical search and rescue incidents. This standard is developed to define levels of preparation and operational capability that should be achieved by any agency in California that has responsibility for technical search and rescue operations. These defined levels provide a system used to manage an incident efficiently and effectively, to maximize personnel safety, and conclude in successful rescue of victims.

California developed and has adopted the Incident Command System (ICS) as its incident management system. The National Incident Management System (NIMS) was developed from and based on the Incident Command System. Initial technical search and rescue operations are directed by the first arriving public safety officer who assumes command and serves as the initial Incident Commander. Subsequent changes in the incident command structure will be based on the resource and management needs of the incident following established ICS procedures and requirements.

For the context of this document, technical search and rescue is identified as tasks, tactical decisions and strategic efforts involved in all aspects of saving life and/or property that employ the use of specialized tools and skills that would typically exceed those normally reserved for emergency medical services or firefighting. Such specialized tools and equipment are identified as meeting or exceeding those skills found in the minimum requirements of the State of California, Firefighter I and Firefighter II or equivalent.

Emergency incidents requiring the use of technical search and rescue knowledge, skills, and abilities involve: technical search, large area search and determining the location of potential victims, the initial medical stabilization and extrication of victims trapped in structural collapse, mine rescue, tower and/or crane rescue, collapsed trenches, floods, mud and debris flows, and mass transportation incidents. System resources are part of the California Fire Service and Rescue Emergency Mutual Aid System and follow the California Fire Service and Rescue Emergency Mutual Aid Plan. The state follows the “closest resources concept”, which endeavors to use the closest available appropriate resource to mitigate the incident. Resources may be deployed to incidents for “initial-attack”, “immediate need”, “planned need”, or may also be “pre-positioned” as determined by Cal OES. California’s technical search and rescue system provides a scalable, yet rigorous, standard for local, tribal, regional, state, national, non-governmental, and private sector resources. It has been collaboratively developed with the assistance of stakeholders and subject matter experts from all levels of public safety & government.

The ICS 162 incorporates revisions recommended to the FIRESCOPE Task Force and Operations Team by the Technical Search and Rescue Specialist Group, based on public safety agency representative comment, regional and operational area agency feedback, and proposals pursuant to ANSI Standards, Federal Emergency Management Agency, California State Fire Training, California Office of Emergency Services, as well as end user input.

Chapter 1: Technical Search and Rescue Resource Administration

Purpose

This chapter establishes the minimum acceptable performance for the management and administration for operational readiness required of a technical search and rescue resource for any agency choosing to participate and support the California US&R System.

Application

This document applies to any organization having a technical rescue capability seeking alignment with California US&R Response System requirements and those units and/or task forces seeking enhancements through the application of a recognized assessment standard for certification and validation.

Training Plan

A sponsoring agency should have an ongoing training plan to include initial and continuing education covering each of the functional areas of NFPA 1670 and NFPA 1006, as well as any required AHJ, State Fire Marshal, or CICCS certification training for new and incumbent members, succession training for supervisory and managerial levels, and the maintenance of expiring certifications. The training plan should include annual mobilization and full-scale exercises.

Program Management

The Sponsoring Agency and/or Authority Having Jurisdiction (SA/AHJ) should have documented management processes delivered through enabling authorities that establishes and provides for the readiness and response of the technical search and rescue resource(s).

The enabling authorities of the SA and/or AHJ when organized with multiple agencies and/or jurisdictions must designate the primary agency, department, organization, or office empowered with the primary authority to manage the operations, maintenance and sustainment of the technical search and rescue resource(s).

The SA and/or AHJ should have personnel assigned for the management and administration of the technical search and rescue resource(s) that conducts supervisory, administrative, training, and logistical duties. The SA and/or AHJ shall determine personnel resources necessary for management and administrative duties outlined above.

Technical search and rescue resource(s) shall have a process in accordance with the SA and/or AHJ policies for verifying participating members meet the necessary license, certification, or other professional qualification requirements of their assigned position at time of deployment. The unit and/or task force shall ensure that the documentation for certifications and licenses is on file to verify currency.

The unit and/or task force should maintain a roster of deployable personnel in each functional position in accordance with the appropriate position descriptions.

Technical search and rescue resource(s) should provide the unit and/or task force policies and procedures and include information on or reference to the following items:

1. Member recruitment, appointment, assignment, and separation policies
2. Reimbursement policies including time and payroll reporting for intra and interstate deployments.
3. Travel policies and procedures.
4. Position descriptions for program manager and staff.
5. Organization charts.
6. Issuance and turn-in, of personal clothing/protective equipment procedures.
7. Worker's compensation procedures.
8. Ethics' policies/code of conduct.
9. Administrative files to include SA and/or AHJ reports, budgets, grant applications, enabling authority documents (Directives and Memorandums), personnel files, MOA/MOU.
10. Audit/inspection policies and procedures.
11. Public Relations Activities procedures.
12. Family support procedures during deployments.
13. Return to Readiness procedures
14. Post mission medical screening processes and worker compensation claims.
15. After Action Report/Corrective Action Plan established by the enabling authority.

Technical search and rescue resource(s) should provide information on or reference to the following items:

1. Describe the composition, capabilities, and limitations of the technical rescue resource.
2. Describe the process through which the Resource will be alerted, activated, and deployed.
3. Delineate organizational responsibilities and roles.
4. Describe the relationship between the US&R Resource and Federal, State, and local resources and other supporting organizations.
5. Provide procedures and guidelines for transporting multiple entities as needed and task forces.
6. Describe the purpose of the mobilization center, staging areas, and activities related a resource or task force's occupation of these facilities; and

7. Identify the procedures for on-site operations, task force reassignment, and demobilization.

Incident Management

Technical search and rescue resource(s) participating in the California US&R System shall operate under the Incident Command System (ICS). Incident management personnel shall be proficient in the National Incident Management System (NIMS), recognizing that significant technical rescue incidents and disasters, both natural and man-made, often require requesting national and international resources. Incident management personnel shall have an operational knowledge of the California Mutual Aid System (which is based on the California Emergency Services Act), and its application to the California US&R system.

Technical search and rescue resource(s) shall have procedures for implementation of the ICS elements specified in this standard.

A certificate of completion for each required course in accordance with current position descriptions must be on file. *For skill sets not covered by certification under established state or federal course curriculums, a member's training record must reflect satisfactory knowledge of such skill sets for the positions they hold.*

Technical search and rescue resource(s) shall have procedures for implementation and operation of the ICS to include enabling authorities for those specific to inter-agency and intra-agency coordination, integration into existing on-scene command structures, coordination with other higher, lateral, and subordinate coordination and command structures, and interoperable communications.

Mobilization Plan

Mobilization plans should identify and assign specific actions for activating a technical search and rescue resource(s) for deployment. The plan shall include the following items:

1. 24-hour points of contact.
2. Team or unit notification procedures for advisories, alerts, and activations.
3. Call-out procedures and methodologies.
4. When appropriate, canine health and authorization procedures.
5. Safety and security procedures while enroute.
6. PPE Issuance/Check-in procedure, as appropriate.
7. As needed, load plans for ground and air deployment.
8. As appropriate, a schedule to be at Point of Departure within assigned timeframes.
9. Convoy plan with appropriate vehicles.
10. Deployment data for cache movement vehicles, command vehicles, and equipment.

11. Set-up procedures for a Base of Operations (BoO), as appropriate.

Technical search and rescue resource(s) must have developed plans to initiate, receive, and/or relay notifications to alert key decision makers and emergency personnel. This capacity should be designed for the requirements of the jurisdiction's potential operating environments and should include redundancy to provide alternative means of notification in case of failure in primary system(s).

Primary and alternate notification systems should be regularly tested on an established schedule under operational conditions.

Technical search and rescue resource(s) should develop and maintain written procedures to ensure personnel familiarity with and the effective operation capabilities and utilization of the notification systems and equipment. Procedures should address requirements of the incident's operating environment(s), clearly delineate any decision-making processes or triggering events, and are reviewed and updated regularly.

Training and Exercises

Training plans should describe training and scheduled events to include the following:

1. A calendar of all significant national, regional, state, tribal, and local activities.
2. Periodic training sessions and drills including topics applicable to position, functions, dates/times, duration, frequency; and
3. Exercises to include equipment deployment.

Technical search and rescue resource(s) shall ensure personnel are trained in accordance with established technical search and rescue position descriptions.

Technical search and rescue resource(s) shall have a policy for the security of personnel records and maintain a centrally located and secure filing system for general and position specific functional training/certification records (completion certificates) for all rostered members.

Technical search and rescue resource(s) should conduct and document techniques to maintain readiness including, but not limited to deployment exercises, mobilization exercises, and training sessions/drills.

A process for after action reporting should be established to submit reports within 90 days of completion of the exercise and/or training activity to all participating members.

The process should track lessons learned and prioritize resolutions of deficiencies within exercise and training events.

Technical search and rescue resource(s) equipment management should include a documented process for the regular testing, maintenance, repair, and replacement of equipment on an established schedule. Technical search and rescue resource(s) equipment management includes a documented process for the retention of logs and records established.
Technical search and rescue resource(s) communications systems and equipment must meet the requirements of an all-hazards environment. Communication systems and equipment are interoperable among internal and external higher, lateral, and subordinate levels and sufficiently robust to support all components of required operations and include redundancy to provide alternative means of communications in case of failure in primary system(s) and are maintained at a state of readiness for response.

Technical search and rescue resource(s) shall ensure that the communications capability for a specific resource type is maintained in a state of readiness for response. Service agreements, as required, should be in place for immediate use of equipment upon activation.

Technical search and rescue resource(s) shall have assigned transportation resources capable of deploying all available personnel caches, and assets during both routine and emergency situations.

Chapter 2: General Personnel Requirements

Single Resource & Task Force Capabilities

Technical Search and Rescue Personnel

1. Must be able to meet the physical requirements of the sponsoring agency with or without accommodations.
2. Must possess a fundamental knowledge of technical search and rescue operations.
3. Must be available on short notice to mobilize and/or respond to a request and be self-sufficient for at least 24 hours for a response assignment of up to 14 days in austere environments.
4. Must be capable of improvising and functioning for long hours under adverse conditions.
5. Complete initial blood-borne pathogen training in accordance with OSHA 29 CFR 1910.1030/CCR Title 8 Section 5193.
6. Must maintain current inoculations as set by the Sponsoring Agency, Authority Having Jurisdiction (SA/AHJ).
7. Must be able to function safely at heights and on or around rubble.
8. Complete critical incident stress awareness training and must be aware of the signs, symptoms, and corrective measures of critical incident stress syndrome.
9. Must understand and adhere to safe working practices and procedures as required in the urban disaster environment.
10. Must have a working knowledge of California's Fire and Rescue Mutual-Aid System, the California US&R system with its organizational structure, operating procedures, safety practices, and terminology, knowledge of all technical rescue equipment of their assigned unit, and relevant communications protocols.
11. Must have successfully completed the First Responder Operational Level for Hazardous Materials in accordance with OSHA Standard 29 CFR 1910/CCR Title 8 Section 5192.
12. Must be currently certified in Cardiopulmonary Resuscitation - Basic Life Support.
13. Must have a working knowledge of the Incident Command System including successful completion of the ICS-100, ICS-200 and the on-line courses IS-700 and IS-800.
14. Successful completion of Respiratory Protection training and fit test per 29 CFR 1910.134 (k)/CCR Title 8 Section 5144(F)(e).
15. Complete refresher training as required for respiratory protection training per OSHA 29 CFR 1910.134 (k)/CCR Title 8 Section 5144(k).
16. Successful completion of appropriate level training per NFPA 1670 and 1006.

17. Complete NFPA 1670 awareness level training for the following:
    a. Confined space rescue operations
    b. Water rescue operations
    c. Structural collapse operations
18. Successful completion of a GPS awareness level training as per MEL.
19. The authority having jurisdiction shall assure that the individual meets or exceeds the required knowledge, skills, and abilities (KSA's) outlined in this document.

US&R-Technical Rescue Typing Capability Requirements

California resources are typed by their operational capabilities.

US&R Company Type-4 (Basic):

Operational Level represents the minimum capability to conduct safe and effective search and rescue operations at incidents involving non-structural entrapment in non-collapsed structures. Organizations typed and operating at the US&R Type-4 level shall meet the awareness level for structural collapse incidents.

Personnel shall be trained in hazard recognition, equipment use, and techniques required to operate safely and effectively at incidents involving non-structural entrapment. Personnel at this level shall be competent at surface rescue that involves minimal removal of debris and building contents to extricate easily accessible victims from damaged, but non-collapsed structures.

Training at the basic level should at a minimum include the following:

1. Size-up of existing and potential conditions and the identification of the resources necessary to conduct safe and effective urban search and rescue operations.
2. Process for implementing the Incident Command System (ICS).
3. Procedures for the acquisition, coordination, and utilization of resources.
4. Procedures for implementing site control and scene management.
5. Identification, utilization, and proper care of personal protective equipment required for operations at structural collapse or failure incidents.
6. Identification of four types of collapse patterns and potential victim locations.
7. Recognition of the potential for secondary collapse.
8. Recognition of the general hazards associated with a structure collapse or failure situation and the actions necessary for the safe mitigation of those hazards.
9. Procedures for implementing the structure/hazard marking system.
10. Procedures for conducting searches at non-collapsed structures using appropriate methods for the type of building configuration.
11. Procedures for implementing the search marking system.
12. Recognition and response to the emergency signaling system.

13. Procedures for the extrication of easily accessible victims from non-structural entrapments involving minimal removal of debris and /or building contents.
14. Procedures for providing disaster first aid medical care to victims.
15. Members shall be trained to the Hazardous Materials First Responder Operational Level (FRO).

US&R Company Type-3 (Light):

Operational Level represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Light Frame Construction and low angle or one-person load rope rescue. Organizations typed and operating at the US&R Type-3 level shall meet the operations level for structural collapse and rope rescue.

Personnel shall meet all US&R Type-4 level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use, and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Light Frame Construction and low angle or one-person load rope rescue as specified below:

1. Personnel shall be trained to recognize, evaluate, and communicate the unique hazards associated with the collapse or failure of Light Frame Construction.
2. Must possess a fundamental knowledge of firefighting and rescue operations including a California State Firefighter 2 or equivalent.
3. Site safety and hazard recognition for personal protective equipment required for site.
4. Recognition of the building materials and structural components associated with Light Frame Construction.
5. Recognition of unstable collapse and failure zones of Light Frame Construction.
6. Recognition of collapse patterns and probable victim locations associated with Light Frame Construction.
7. Knowledge of, and procedures for implementing the emergency signaling system.
8. Personnel shall have an awareness of the resources and the ability to perform search operations intended to locate victims who are not readily visible and who are trapped inside and beneath debris of Light Frame Construction.
9. Training should include but not be limited to the following:
    a. Conducting non-technical searches.
    b. Procedures for implementing the FEMA victim marking system.
    c. Capabilities and procedures for requesting US&R canine search teams and technical search equipment such as video and optical visual search devices and seismic or acoustic electronic listening devices.

Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Light Frame Construction. Training should include but not be limited to the following:

1. Lifting techniques to lift structural components of walls, floors, or roofs safely and efficiently.
2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors, or roofs.
3. Breaching techniques to create openings safely and efficiently in structural components of walls, floors, or roofs.
4. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Light Frame Construction. Training should include but not limited to the following:

1. Packaging victims within confined areas.
2. Removing victims from elevated or below grade areas.
3. Providing medical treatment to victims at a minimum to the Basic Life Support level.
4. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing low angle or one-person load rope rescue involving accessing, packaging, treating, and removing victims. Training should include but not be limited to the following:

1. Rope system anchors
2. Evacuation litters
3. Rescuer and patient packaging
4. Lowering and raising systems
5. Mechanical advantage systems

US&R Company Type-2 (Medium):

Operational Level represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Wall Construction, high angle rope rescue, and trench and excavation rescue. Organizations typed and operating at the US&R Type-2 level shall meet the awareness level for surface water search and rescue, the operations level for rope rescue, confined space, trench and excavation, vehicle, and machinery search and rescue, and the technician level for structural collapse.

Personnel shall meet all US&R Type-3 level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use, and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Wall Construction, high angle rope rescue, and trench and excavation rescue.

Personnel shall be trained to perform search functions and to evaluate and assess an incident using established standard search operational procedures. Training should include but not be limited to the following:

1. Searching structures in US&R environments.
2. Structural markings and search markings.
3. Document and marking of victims, potential victims, and hazards.
4. Basic land navigation and site mapping.
5. Cooperating with and assisting other search & rescue resources.
6. Participating in wide area search operations.

Personnel shall be trained to recognize, evaluate, and communicate the unique hazards associated with the collapse or failure of Heavy Wall Construction. Training should include but not be limited to the following:

1. Site safety, atmospheric monitoring, hazard assessment and personal protective equipment required for site.
2. Recognition of the building materials and structural components associated with Heavy Wall Construction.
3. Recognition of unstable collapse and failure zones of Heavy Wall Construction.
4. Recognition of collapse patterns and probable victim locations associated with Heavy Wall Construction.

Personnel shall have a working knowledge of the resources and procedures for performing search operations intended to locate victims who are not readily visible and who are trapped inside and beneath debris of Heavy Wall Construction.

Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Heavy Wall Construction. Training should include but not be limited to the following:

1. Lifting techniques to lift structural components of walls, floors, or roofs safely and efficiently.
2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors, or roofs.
3. Breaching techniques to create openings safely and efficiently in structural components of walls, floors, or roofs.
4. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Heavy Wall Construction. Training should include but not be limited to the following:

1. Packaging victims within confined areas.

2. Removing victims from elevated or below grade areas.
3. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing high angle rescue involving accessing, packaging, treating, and removing victims. Training should include but not be limited to the following:

1. Rope system anchors
2. Evacuation litters
3. Rescuer and patient packaging
4. Lowering and raising systems
5. Mechanical advantage systems
6. Fall protection and/or limiter systems

Personnel shall be trained in the procedures for performing trench and excavation rescue operations. Training shall include but not be limited to the following:

1. Familiarity with the California Code of Regulations, Title 8, Sections regarding trench and excavation rescue.
2. Site safety; atmospheric monitoring, hazard recognition and hazard assessment.
3. Containing or controlling hazards within the rescue site.
4. Providing a recognized “Protective System” for victim(s) and rescuer(s) in individual trenches.
5. Packaging and removal of victim(s) from within rescue site.
6. Members shall be trained to the Hazardous Materials First Responder Operational Level (FRO).
7. Complete the FEMA Enhanced Operations in the Contaminated Environment – Computer Based Training” Course (Recommended)

Personnel shall be trained in the procedures for performing confined space rescue (non-permit required) operations. Training shall include but not be limited to the following:

1. Familiarity with the California Code of Regulations, Title 8, Sections regarding confined space rescue.
2. Site safety: atmospheric monitoring, hazard recognition and hazard assessment in permit-required confined spaces, tunnels or other long remote entries, high vertical access, and hazardous environmental entries.
3. Containing and controlling hazards within the rescue site.

US&R Company Type-1 (Heavy):

Operational Level represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue, confined space rescue (permit required), and mass transportation rescue.

Organizations typed and operating at the Type-1 level shall meet technician level for: structural collapse, rope rescue, confined space, trench and excavation, vehicle, and machinery search and rescue.

Personnel shall meet all US&R Type-2 level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use, and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue, confined space rescue (permit required) and mass transportation rescue.

Personnel shall be trained to recognize, evaluate, and communicate the unique hazards associated with the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Must possess a knowledge of firefighting and rescue operations including a California State Firefighter 2 or equivalent.
2. Site safety, atmospheric monitoring, hazard assessment and personal protective equipment required for site.
3. Recognition of the building materials and structural components associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
4. Recognition of unstable collapse and failure zones of Heavy Floor, Precast Concrete and Steel Frame Construction.
5. Recognition of collapse patterns and probable victim locations associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.

Personnel shall have a working knowledge of the resources and procedures for performing search operations intended to locate victims who are not readily visible and who are trapped inside and/or beneath debris of Heavy Floor, Pre-cast Concrete and Steel Frame Construction.

1. Must understand State and Federal standardized search modalities and methods of detecting and locating trapped victims.
2. Must possess a knowledge of how to read and use standardized federal & state search markings.
3. Knowledge of coring or breaching techniques that enable the use of visual devices for searching for entombed victims in void spaces.
4. Knowledge on the appropriate listening devices to detection of victims.
5. Basic understanding of the proper use of canine search teams.
6. Must possess a basic understanding of how to operate a Global Positioning System (GPS) unit in the technical search and rescue environment, and how to transfer search data for analysis.
7. Must possess a good understanding of wide area search operations in a large geographic area.

Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Lifting techniques to lift structural components of walls, floors, or roofs safely and efficiently.
2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors, or roofs.
3. Breaching techniques to create openings safely and efficiently in structural components of walls, floors, or roofs.
4. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Packaging victims within confined areas.
2. Removing victims from elevated or below grade areas.
3. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing high angle rescue involving accessing, packaging, treating, and removing victims. Training should include but not be limited to the following:

1. Rope system anchors
2. Evacuation litters
3. Rescuer and patient packaging
4. Lowering and raising systems
5. Mechanical advantage systems
6. Fall protection and/or limiter systems

Personnel shall be trained in the procedures for performing confined space rescue (permit required) operations. Training shall include but not be limited to the following:

1. Familiarity with the California Code of Regulations, Title 8, Sections regarding confined space rescue.
2. Site safety: atmospheric monitoring, hazard recognition and hazard assessment in permit-required confined spaces, tunnels or other long remote entries, high vertical access, and hazardous environmental entries.
3. Containing and controlling hazards within the rescue site.
4. Packaging and removal of victims within confined spaces.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treating, and removing victims trapped within mass transportation systems. Training should include but not limited to the following:

1. Procedures to conduct a size-up of existing and potential hazards.
2. Recognition of special hazards, safety systems and construction of transportation systems.
3. Packaging and removal of victim(s) from within rescue site.
4. Extrication techniques to gain access safely and efficiently to trapped victims.
5. Procedures to stabilize, support, and lift diverse types of transportation vehicles safely and efficiently.
6. Operating specialized tools and equipment to accomplish the above tasks safely and efficiently.

California Regional US&R Task Force (RTF):

Operational level represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue (including high-line systems), confined space rescue (permit required), and mass transportation rescue.

The California Regional US&R Task Force is comprised of 30 members and is configured to rapidly respond to incidents within the state. As an initial attack and extended attack resource, California Regional US&R Task Forces deploy within 45 minutes of activation. Emphasis is given to speed of deployment and equipment is non-palletized for quick access and deployment. Coordinates and conducts search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from damaged structures.

Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water. Capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including highline systems), confined space rescue (permit required), trench/excavation, heavy rigging, wide area search, mass transportation (subway, rail, bus, etc.) rescue and mud & debris flow rescue. California Regional US&R Task Forces are self-sustaining for 24 hours and are deployable for up to 14 days.

Personnel shall meet all Type-1 US&R Company-level training minimum requirements and all specialty position training requirements as they may be assigned. In addition, personnel shall be trained in hazard recognition, equipment use, and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue, confined space rescue (permit required), and mass transportation rescue.

Personnel shall be trained to recognize, evaluate, and communicate the unique hazards associated with the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Must possess a knowledge of firefighting and rescue operations including a California State Firefighter 2 or equivalent.
2. Site safety, atmospheric monitoring, hazard assessment and personal protective equipment required for site.
3. Recognition of the building materials and structural components associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
4. Recognition of unstable collapse and failure zones of Heavy Floor, Precast Concrete and Steel Frame Construction.
5. Recognition of collapse patterns and probable victim locations associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.

Personnel shall have a working knowledge of the resources and procedures for performing search operations intended to locate victims who are not readily visible and who are trapped inside and/or beneath debris of Heavy Floor, Pre-cast Concrete and Steel Frame Construction.

1. Must understand State and Federal standardized search modalities and methods of detecting and locating trapped victims.
2. Must understand the principles of area reconnaissance, highest area of probable victim detection and how to expedite victim locating efforts.
3. Must possess a knowledge of how to read and use standardized federal & state search markings.
4. Knowledge of coring or breaching techniques that enable the use of visual devices for searching for entombed victims in void spaces.
5. Knowledge on the appropriate listening devices for the detection of victims.
6. Basic understanding of the proper use of canine search teams.
7. Must possess an operational understanding of how to operate a Global Positioning System (GPS) unit in the technical search and rescue environment, and how to transfer search data for analysis.
8. Must possess a good understanding of wide area search operations in a large geographic area.

Personnel shall be trained in the procedures for performing access operations intended to reach victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Lifting techniques to lift structural components of walls, floors, or roofs safely and efficiently.
2. Develop and communicate a shoring plan. Safely and efficiently construct temporary structures needed to stabilize and support structural components to prevent movement of walls, floors, or roofs.

3. Breaching techniques to create openings safely and efficiently in structural components of walls, floors, or roofs.
4. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treatment and removal of victims trapped inside and beneath debris associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Packaging victims within confined areas.
2. Removing victims from elevated or below grade areas.
3. Operating appropriate tools and equipment to accomplish the above tasks safely and efficiently.

Personnel shall be trained, per the SA and/or AHJ, to the Rope Technician Level per NFPA 1006 job performance requirements defined in Section 5.2 and 5.3.1 through 5.3.6. Training should include but not be limited to the following:

Personnel shall be trained in the procedures for performing confined space rescue (permit required) operations. Training shall include but not be limited to the following:

1. Site safety: atmospheric monitoring, hazard recognition and hazard assessment in permit-required confined spaces, tunnels or other long remote entries, high vertical access, and hazardous environmental entries.
2. Containing and controlling hazards within the rescue site.
3. Packaging and removal of victims within confined spaces.

Personnel shall be trained in the procedures for performing extrication operations involving packaging, treating, and removing victims trapped within mass transportation systems. Training should include but not limited to the following:

1. Procedures to conduct a size-up of existing and potential hazards.
2. Recognition of special hazards, safety systems and construction of transportation systems.
3. Packaging and removal of victim(s) from within rescue site.
4. Extrication techniques to gain access safely and efficiently to trapped victims.
5. Procedures to stabilize, support, and lift diverse types of transportation vehicles safely and efficiently.
6. Operating specialized tools and equipment to accomplish the above tasks safely and efficiently.

Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for food, and water.

California Regional US&R Task Forces are capable of operations in heavy frame, reinforced concrete, Technician-Level rope rescue, confined space rescue (permit

required), trench, excavation, wide area search, mass transportation (subway, rail, bus, etc.) rescue and mud & debris flow rescue.

Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:

1. Communications beyond the resource's intra-team communications (such as programmable inter-operable communications with command, logistics, military, etc.)
2. Type of incident, such as confined space, and terrain
3. Type of construction and collapse conditions per US&R definitions of Heavy, Medium, and Light
4. Additional specialized personnel, such as advanced medical, and rescue, logistics, advisors, or helicopter support, or for unique operating environments
5. Additional transportation or specific vehicles, trailers, drivers, mechanics, equipment, supplies, and fuel, etc.
6. Any additional aviation support, such as helicopter or fixed wing
7. Tools, hardware, software, ropes, and survivor evacuation equipment that is beyond what is listed for this resource
8. Contaminated environments, decontamination needs and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
9. Logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)

The California Regional US&R Task Force is equipped with two US&R Paramedics for task force medical needs and rapid Advanced Life Support Intervention of trapped victims. The US&R RTF relies on local emergency medical infrastructure for patient transfer.

The California Regional US&R Task Force is equipped with two Haz-Mat Specialists for recognizing environments that may be immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requesting entity must consider the need for additional recognized capability or endorsement.

Heavy Equipment and Rigging capabilities that provide the understanding of basic crane physics to assist the AHJ in requesting the proper heavy equipment specific to the US&R incident. Assist and/or manage in lifting debris and other heavy objects, calculate load weights, sling angles, identification of the center of gravity of objects, and the types and use of cutting torches during search and rescue operations.

California FEMA US&R Task Force - Type IV Configuration:

A multi-disciplined organization which conducts search, rescue, and recovery in the technical rescue disciplines to include non-structural collapse and rope rescue. A Type IV California FEMA US&R Task Force can operate in one 12-hour shift, self-sustaining for 72 hours and deployable for up to 14 days.

Does not have a National US&R Response System-defined CBRNE functional Hazardous materials capability. Deploys with sufficient Hazardous materials and Personal Protective Equipment for personnel to complete the structural collapse core capability mission.

Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:

1. Communications beyond the resource's intra-team communications (such as programmable inter-operable communications with command, logistics, military, etc.)
2. Type of incident, such as confined space, and terrain
3. Type of construction and collapse conditions per US&R definitions of Heavy, Medium, and Light
4. Additional specialized personnel, such as advanced medical, animal search and rescue, logistics, advisors, or helicopter support, or for unique operating environments
5. Additional transportation or specific vehicles, trailers, drivers, mechanics, equipment, supplies, and fuel, etc.
6. Any additional aviation support, such as helicopter or fixed wing
7. Tools, hardware, software, ropes, and survivor evacuation equipment that is beyond what is listed for this resource
8. Contaminated environments, and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
9. Logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)

The requestor must specify if the incident necessitates a Hazardous Materials and/or Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) response and ensure that the resource provider deploys the US&R Task Force equipped with the additional Hazardous materials and/or CBRNE specific equipment to perform in an environment requiring Level B PPE for at least 12 hours.

The task force relies on local emergency medical infrastructure for patient hand-off.

Operations in SAR environments may be recognized as immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel.

A Type IV Task Force performs the following functions:

Conducts search, rescue, recovery, including:

1. Wide-area search
2. Structural collapse assessment,
3. search, rescue, and rigging in light frame construction
4. Supporting the transport of service or companion animals with persons rescued

5. Coordinate and conduct search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from the damaged structures area.

California FEMA US&R Task Force - Type III Configuration:

A multi-disciplined organization which conducts search, rescue, and recovery in the technical rescue disciplines to include structural collapse, rope rescue, vehicle extrication, machinery extrication, confined space (permit-required, non-cave, non-mine), trench, excavation, and water operations in a US&R environment. A Type III California FEMA US&R Task Force can operate in one 12-hour shift, self-sustaining for 72 hours and deployable for up to 14 days.

Focus is on structural collapse core capability. ***Does not have a National US&R Response System-defined CBRNE functional Hazardous materials capability***. Deploys with sufficient Hazardous materials and Personal Protective Equipment for personnel to complete the structural collapse core capability mission.

Deploys with offensive water operations capability.

A Type III Task Force performs the following functions:

Conducts search, rescue, recovery, including:

1. Wide-area search
2. Structural collapse assessment, search, rescue, and rigging in light through heavy frame construction, including reinforced concrete
3. Associated technical rope rescue (including high lines)
4. Confined space search and rescue (permit-required, non-mine, non-cave)
5. Trench and excavation rescue
6. Mass transportation vehicle rescue (subway, rail, bus, etc.)
7. Supporting the transport of service or companion animals with persons rescued

Coordinate and conduct search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from the damaged structures.

Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water.

Type III Task Forces are capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including highline systems), confined space rescue (permit required), trench/excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue can operate in one 12-hour shift.

Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:

1. Communications beyond the resource's intra-team communications (such as programmable inter-operable communications with command, logistics, military, etc.)
2. Type of incident, such as confined space, and terrain, and water conditions
3. Type of construction and collapse conditions per US&R definitions of Heavy, Medium, and Light
4. Additional specialized personnel, such as advanced medical, animal search and rescue, boat operators and bowman, logistics, advisors, or helicopter support, or for unique operating environments
5. Additional transportation or specific vehicles, boats, trailers, drivers, mechanics, equipment, supplies, and fuel, etc.
6. Any additional aviation support, such as helicopter or fixed wing
7. Tools, hardware, software, ropes, and survivor evacuation equipment that is beyond what is listed for this resource
8. Contaminated environments, and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
9. Logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)

The requestor must specify if the incident necessitates a Hazardous Materials and/or Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) response and ensure that the resource provider deploys the US&R Task Force equipped with the additional Hazardous materials and/or CBRNE specific equipment to perform structural collapse operations in an environment requiring Level B PPE for at least 12 hours.

Type III Task Forces rely on local emergency medical infrastructure for patient hand-off.

Operations in SAR environments may be recognized as immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and

Rescue Personnel. The requesting entity must consider the need for additional recognized capability or endorsement.

California FEMA US&R Task Force - Type II Configuration:

A multi-disciplined organization which conducts search, rescue, and recovery in the technical rescue disciplines to include structural collapse, rope rescue, vehicle extrication, machinery extrication, confined space (permit-required, non-cave, non-mine), trench, excavation, and water operations in a US&R environment. A Type II California FEMA US&R Task Force can operate in two 12-hour shift, self-sustaining for 72 hours and deployable for up to 14 days.

Focus on structural collapse core capability. ***Does not have a Federal National US&R Response System-defined CBRNE functional Hazardous materials capability*.** Deploys with sufficient Hazardous materials and Personal Protective Equipment for personnel to complete the structural collapse core capability mission. Deploys with offensive water operations capability.

Personnel shall meet all US&R single resource level training requirements. In addition, personnel shall be trained in hazard recognition, equipment use and techniques required to operate safely and effectively at structural collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue (including highline systems), confined space rescue (permit required) and mass transportation rescue.

A Type II US&R Task Force performs the following functions:

Conducts search, rescue, recovery, including:

1. Wide-area search
2. Structural collapse assessment, search, rescue, and rigging in light through heavy frame construction, including reinforced concrete
3. Associated technical rope rescue (including highlines)
4. Confined space search and rescue (permit-required, non-mine, non-cave)
5. Trench and excavation rescue
6. Mass transportation vehicle rescue (subway, rail, bus, etc.)
7. Supporting the transport of service or companion animals with persons rescued

Coordinate and conduct search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from the damaged structures area

Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water

Type 2 US&R Task Forces are capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including high line systems), confined space rescue (permit required), trench/excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue.

Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:

1. Type of incident, such as confined space, and terrain, and water conditions.
2. Type of construction and collapse conditions per US&R definitions of Heavy, Medium, and Light

3. Additional specialized personnel, such as advanced medical, animal search and rescue, boat operators and bowman, logistics, advisors, or helicopter support, or for unique operating environments
4. Any additional aviation support, such as helicopter or fixed wing
5. Contaminated environments, and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
6. Long term logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)

Task Force has advanced medical capability to stabilize victims but relies on local emergency medical infrastructure for latent patient hand-off.

Operations in SAR environments may be recognized as immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requesting entity must consider the need for additional recognized capability or endorsement.

Heavy Equipment and Rigging capabilities that provide the understanding of basic crane physics to assist the AHJ in requesting the proper heavy equipment specific to the US&R incident. Assist and/or manage in lifting debris and other heavy objects, calculate load weights, sling angles, and the center of gravity of objects, and the types and use of cutting torches during search and rescue operations.

California FEMA Type I US&R Task Force

Operational level represents the minimum capability to conduct safe and effective search and rescue operations at structure collapse incidents involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue (including high-line systems), confined space rescue (permit required), and mass transportation rescue. Deploys with a CBRNE functional Hazardous materials capability, to include appropriate Personal Protective Equipment. Deploys with offensive water operations capability.

Focus on structural collapse core capability with *a National US&R Response System-defined CBRNE functional Hazardous materials capability*. Deploys with sufficient Hazardous materials and Personal Protective Equipment for personnel to complete the structural collapse core capability mission. Deploys with offensive water operations capability.

A Type 1 US&R Task Force is required to be self-sufficient for the first 72 hours when in theater and engaged in operations and capable of 24-hour (around the clock) operations for an estimated mission length of up to 14 days. The equipment cache for the Type 1 US&R Task Force is not intended to support the task force for the entire 14 days.

A Type 1 US&R Task Force performs the following functions:

Communications capable of interoperable communications with aircraft, marine resources and various other types of federal, state, and local resources found nationally.

1. UHF range 1, UHF range 2, VHF, VHF AM, and 700-800 MHz radio systems
2. Mobile Satellite Communications (MSAT)
3. Internal Mobile Cellular Communications
4. Data Communications

Conducts search, rescue, recovery, including:

1. Wide-area search
2. Structural collapse assessment, search, rescue, and rigging in light through heavy frame construction, including reinforced concrete
3. Associated technical rope rescue (including high lines)
4. Confined space search and rescue (permit-required, non-mine, non-cave)
5. Trench and excavation rescue
6. Mass transportation vehicle rescue (subway, rail, bus, etc.)

Personnel shall be trained to recognize, evaluate, and communicate the unique hazards associated with the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction. Training should include but not be limited to the following:

1. Site safety, atmospheric monitoring, hazard assessment and personal protective equipment required for site.
2. Recognition of the building materials and structural components associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.
3. Recognition of unstable collapse and failure zones of Heavy Floor, Precast Concrete and Steel Frame Construction.
4. Supporting the transport of service or companion animals with persons rescued

Coordinate and conduct search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from the damaged structures area.

Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water.

Type 1 US&R Task Forces are capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including high-line systems), confined space rescue (permit required), trench, excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue.

Heavy Equipment and Rigging capabilities that provide the understanding of basic crane physics to assist the AHJ in requesting the proper heavy equipment specific to the US&R incident. Assist and/or manage in lifting debris and other heavy objects,

calculate load weights, sling angles, and the center of gravity of objects, and the types and use of cutting torches during search and rescue operations.

Recognition of collapse patterns and probable victim locations associated with Heavy Floor, Pre-cast Concrete and Steel Frame Construction.

1. Containing and controlling hazards within the rescue site.
2. Packaging and removal of victims within confined spaces.

Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:

1. Type of incident, such as confined space, and terrain, and water conditions
2. Additional specialized personnel, such as advanced medical, animal search and rescue, boat operators and bowman, logistics, advisors, or helicopter support, or for unique operating environments
3. Additional transportation mechanics, supplies, and fuel, etc.
4. Any additional aviation support, such as helicopter or fixed wing
5. Contaminated environments, and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
6. Long term logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)

The requestor must specify if the incident necessitates a Hazardous Materials and/or Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) response and ensure that the resource provider deploys with the additional Hazardous materials and/or CBRNE specific equipment to perform structural collapse operations in an environment requiring Level B PPE for at least 12 hours.

Task Force has advanced medical capability to stabilize victims but relies on local emergency medical infrastructure for latent patient hand-off.

Operations in SAR environments may be recognized as immediately dangerous to life and health (IDLH), per ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel. The requesting entity must consider the need for additional recognized capability or endorsement.

Note: All types of US&R Task Forces perform limited operations in hazardous materials or contaminated environments. Hazardous materials capability is limited to one operational period of 12 hours and is limited to defensive operations. The Type 1 is also capable of a 12-hour operational period in a CBRNE environment and capable of being extended up to an additional 24 hours when augmented with additional equipment. Level B and Level C PPE as defined by 29 CFR 1910.120 and consistent with NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents or equivalent.

Chapter 3: ICS Modular Development and Task Force Configurations

ICS Modular Development

US&R incidents will occur that require rescue operations that exceed a resource's identified capability. When the magnitude or type of incident is not commensurate with a capability level, the Incident Commander will have the flexibility to conduct rescue operations in a safe and appropriate manner using existing resources within the scope of their training and equipment until adequate resources can be obtained or the incident is terminated.

The flexibility and modular expansion capabilities of the Incident Command System provides several ways technical search and rescue resources can be arranged and managed. A series of modular development examples are included to illustrate several possible methods of expanding the incident organization based on existing emergency conditions, available resources, and incident objectives.

The ICS Modular Development examples shown are not meant to be restrictive, nor imply these are the only ways to build an ICS organizational structure to manage US&R resources at an incident. To the contrary, the ICS Modular Development examples are provided only to show conceptually how one can arrange and manage resources at an US&R incident that builds from an initial response to a Multi-Branch organization.

ICS Modular Development Examples

Initial Response Organization:

The first arriving Public Safety Officer will assume command of the incident as the Incident Commander (IC). The IC will assume all Command and General Staff functions and responsibilities and manage initial response resources. If the potential for escalation is low, then no specific ICS functional positions are established.

If the incident requires an upgraded response, then the IC should consider the early establishment of ICS positions. The following examples illustrate this modular growth of the ICS structure to keep pace with increased resource response.

Reinforced Response Organization:

In addition to the initial response, more Law Enforcement, local Engine and Truck Companies and Mutual Aid resources have arrived. The IC forms a Unified Command with the senior ranking Law Enforcement official on scene and has established a Safety Officer to assure personnel safety. A Public Information Officer has been assigned to manage the large media presence. An Operations Section has been assigned to

manage the tactical assignments and responsibilities. A Staging Area is established to check-in arriving resources. A US&R Group has been established to better coordinate the search and rescue efforts. Public Works is removing debris from the street to improve access and egress routes.

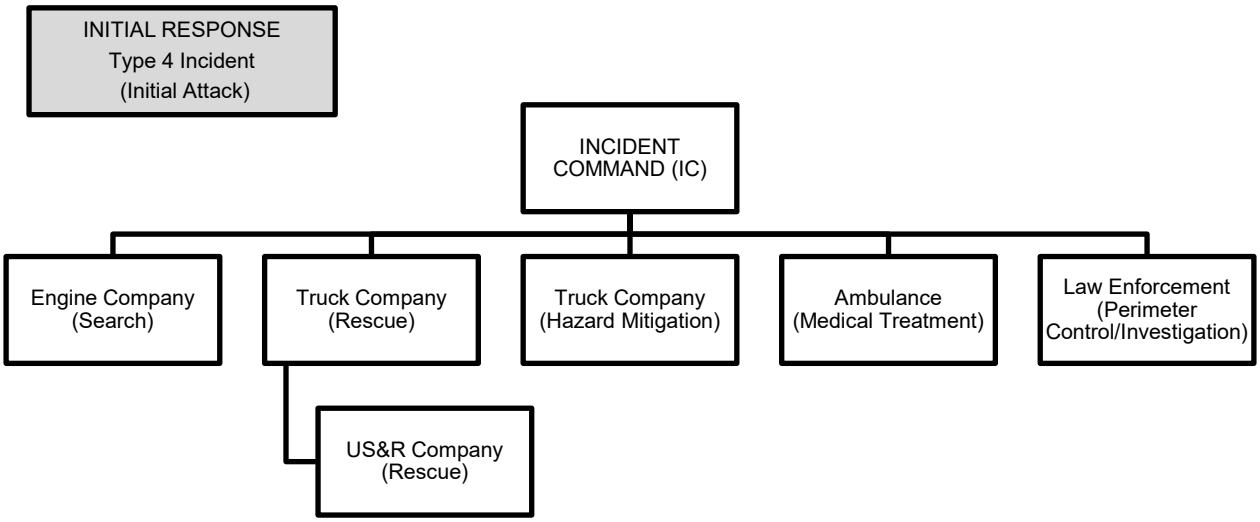
Multi-Group/Division Response Organization:

The IC has added a Liaison Officer to the Command Staff to coordinate assisting agencies participation and assigned a Planning and Logistics Section. One US&R Technical Specialist who understands the unique complexities and resource requirements at US&R incidents is assigned to the Planning Section.

The Operations Section has established several Groups and Divisions to better coordinate the large volume of diverse resources at the incident. A Law Group and Medical Group have been formed. One California FEMA US&R Task Force has arrived and is assigned to Division "A". One Structural Engineer (Technical Specialist) from the Planning Section is assigned to Division "B" to conduct structural damage assessment. A Hand Crew Strike Team is assisting with debris removal.

Multi-Branch Response Organization:

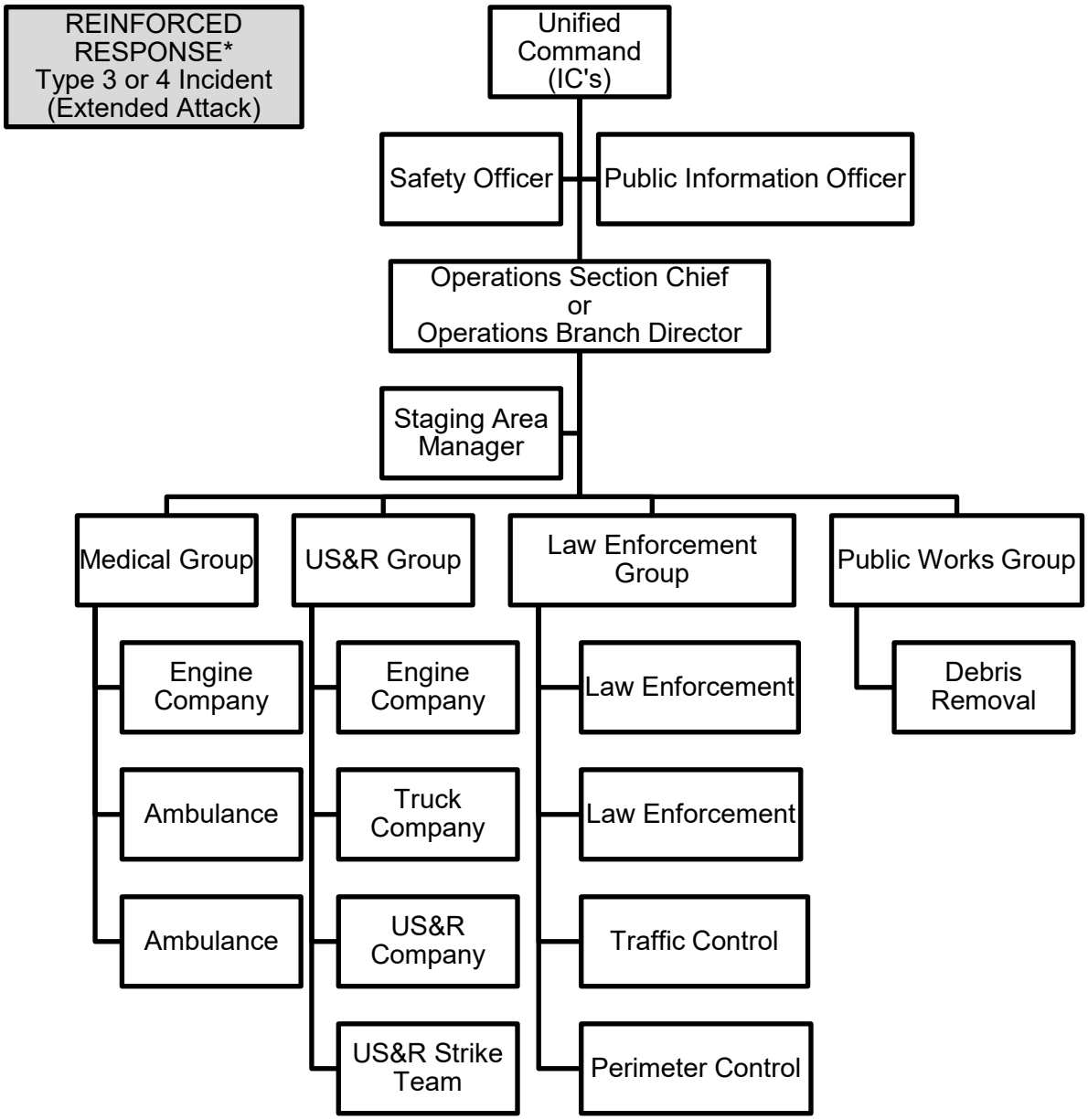
The Incident Commander has assigned a Finance/Admin Section. The Operations Section has established five branches with similar functions to better coordinate and manage resources. The Planning, Logistics and Finance/Admin Section have several Units operational to support the substantial number of resources at the incident.



*INITIAL RESPONSE ORGANIZATION (EXAMPLE)

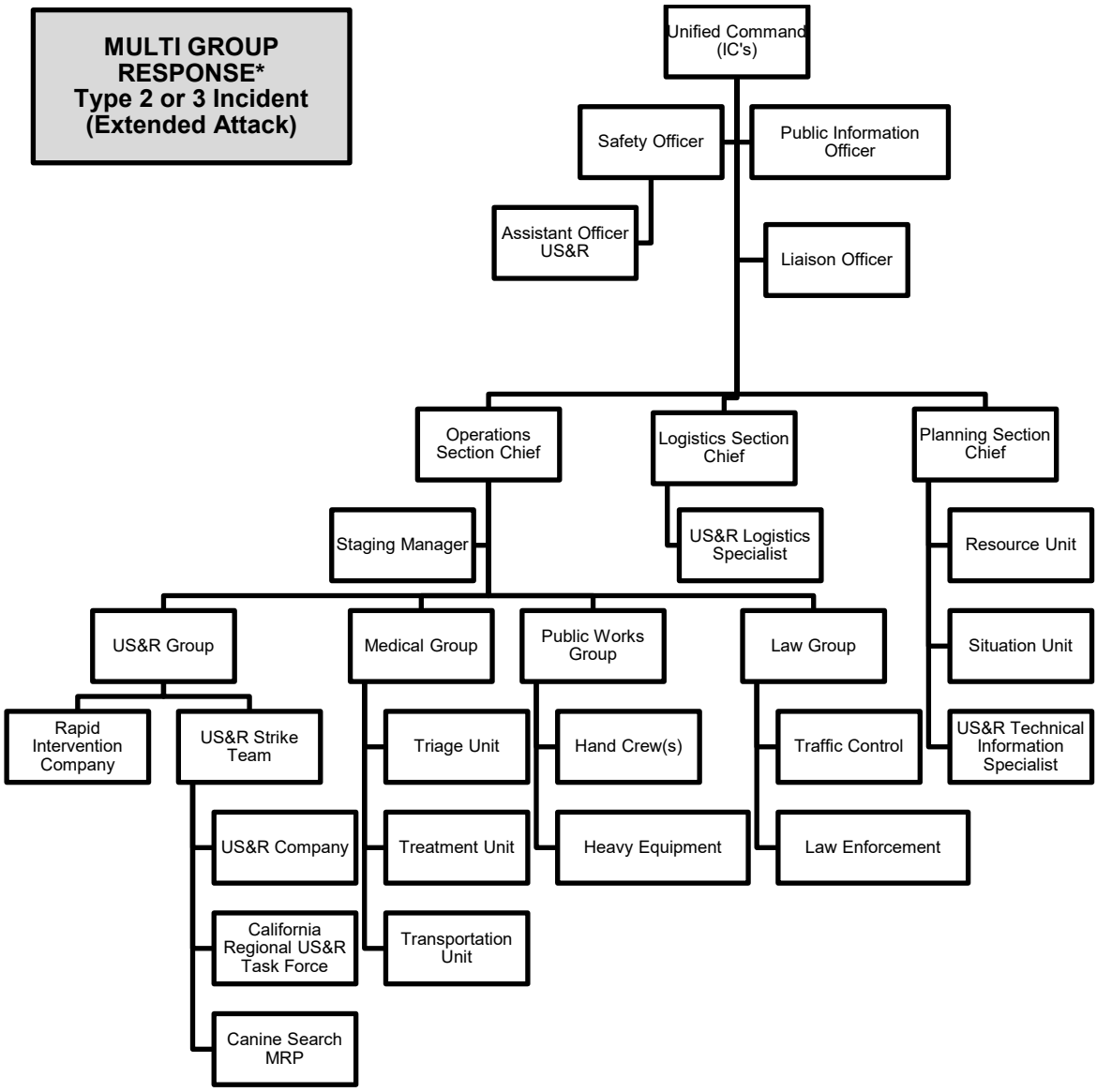
Initial Response Organization

The first arriving Public Safety Officer will assume command of the incident as the Incident Commander (IC). The IC will assume all Command and General Staff functions and responsibilities and manage initial response resources. If the potential for escalation is low, then no specific ICS functional positions are established. If the incident requires an upgraded response, then the IC should consider the early establishment of ICS positions. The following examples illustrate this modular growth of the ICS structure to keep pace with increased resource response.

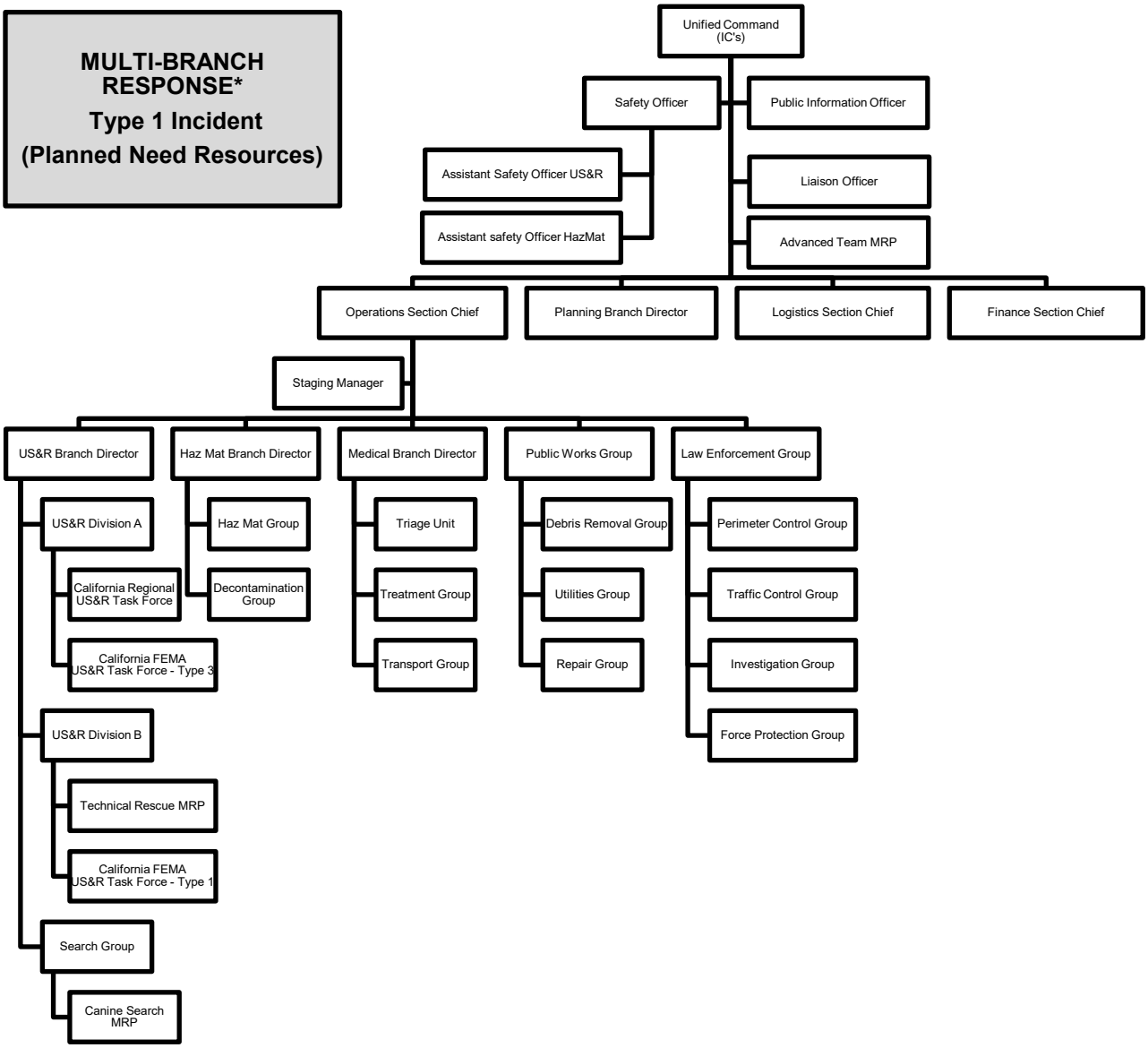


*REINFORCED RESPONSE ORGANIZATION (EXAMPLE)

In addition to the initial response, more Law Enforcement, local Engine and Truck Companies and Mutual Aid resources have arrived. The IC forms a Unified Command with the senior ranking Law Enforcement official on scene and has established a Safety Officer to assure personnel safety. A Public Information Officer has been assigned to manage the large media presence. An Operations Section has been assigned to manage the tactical assignments and responsibilities. A Staging Area is established to check-in arriving resources. A US&R Group has been established to better coordinate the search and rescue efforts. Public Works is removing debris from the street to improve access and egress routes.

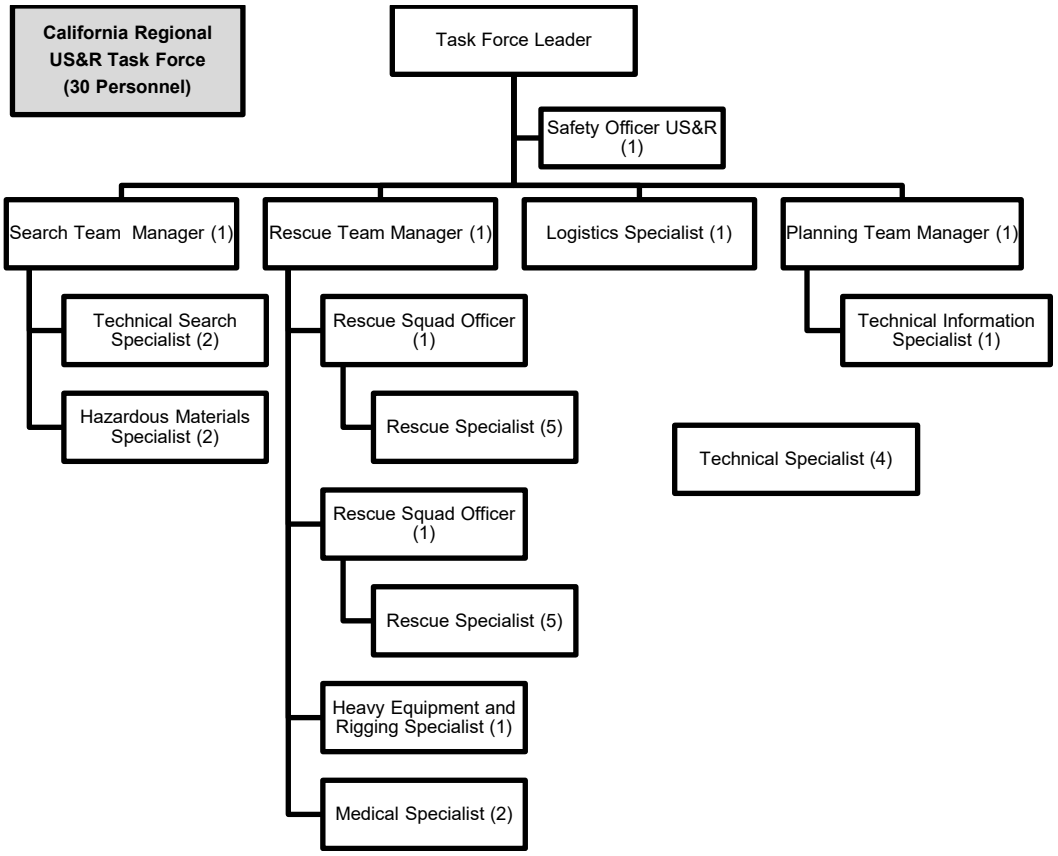


The IC has added a Liaison Officer to the Command Staff to coordinate assisting agencies along with an Assistant Safety Officer (US&R) under the Incident Safety Officer to address specific US&R operations. One US&R Technical Information Specialist who understands the unique complexities and resource requirements at US&R incidents is assigned to the Planning Section. The Logistics Section has added a US&R Logistics Specialist to assist with the needs of US&R resources. The Operations Section has established several Groups and Divisions to better coordinate the large volume of diverse resources at the incident. A Law Group and Medical Group have been formed. A California Regional US&R Task Force and a Canine Search Mission Ready Package has been assigned to the US&R Group. A Hand Crew Strike Team is assisting with debris removal.

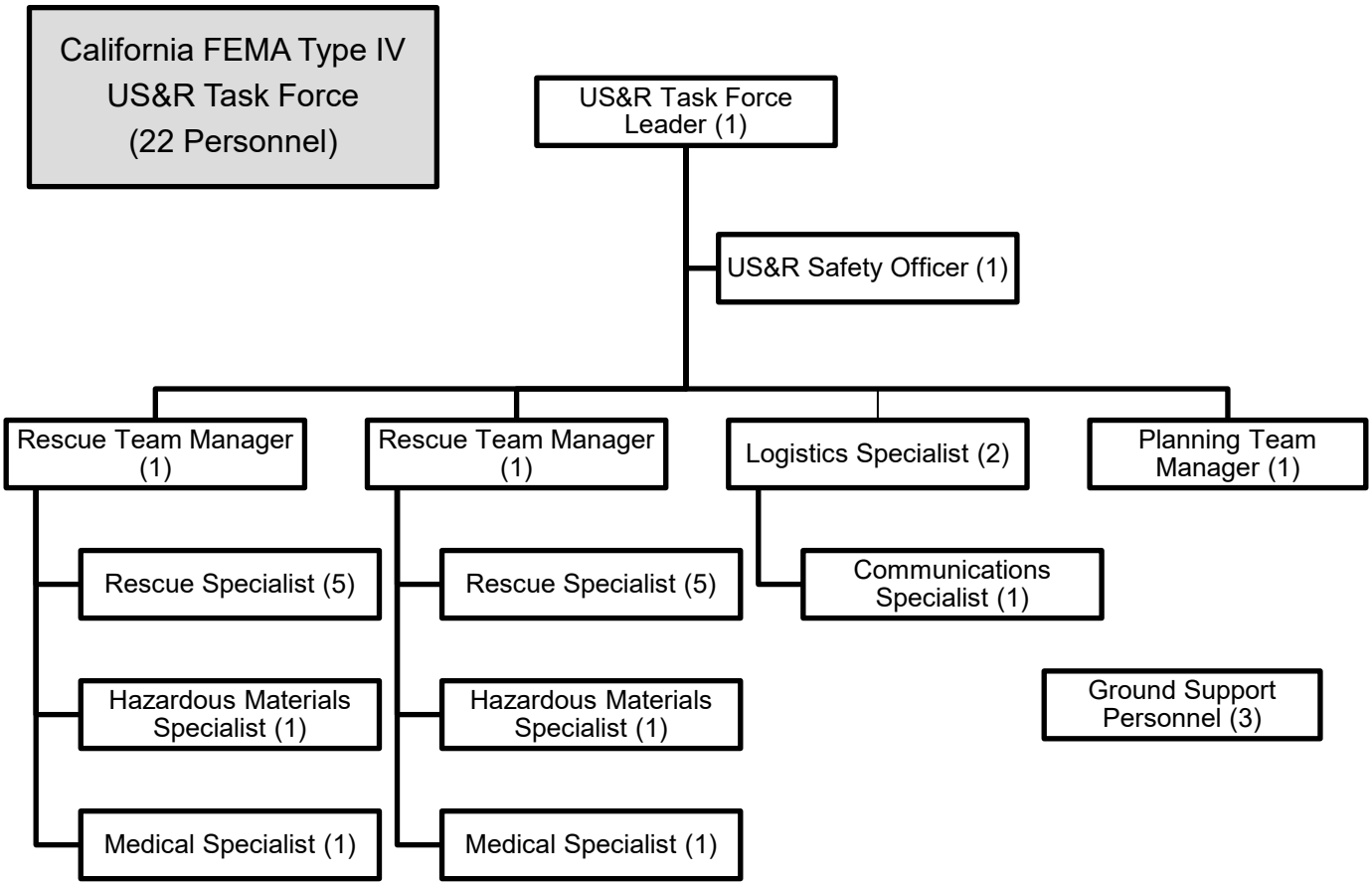


The Incident Commander has assigned a Finance/Admin Section. The Operations Section has established three branches and two groups with similar functions to better coordinate and manage resources. A Type 1 and a Type 3 California FEMA US&R Task Force have been added under the US&R Branch along with a Technical Rescue Mission Ready Package.

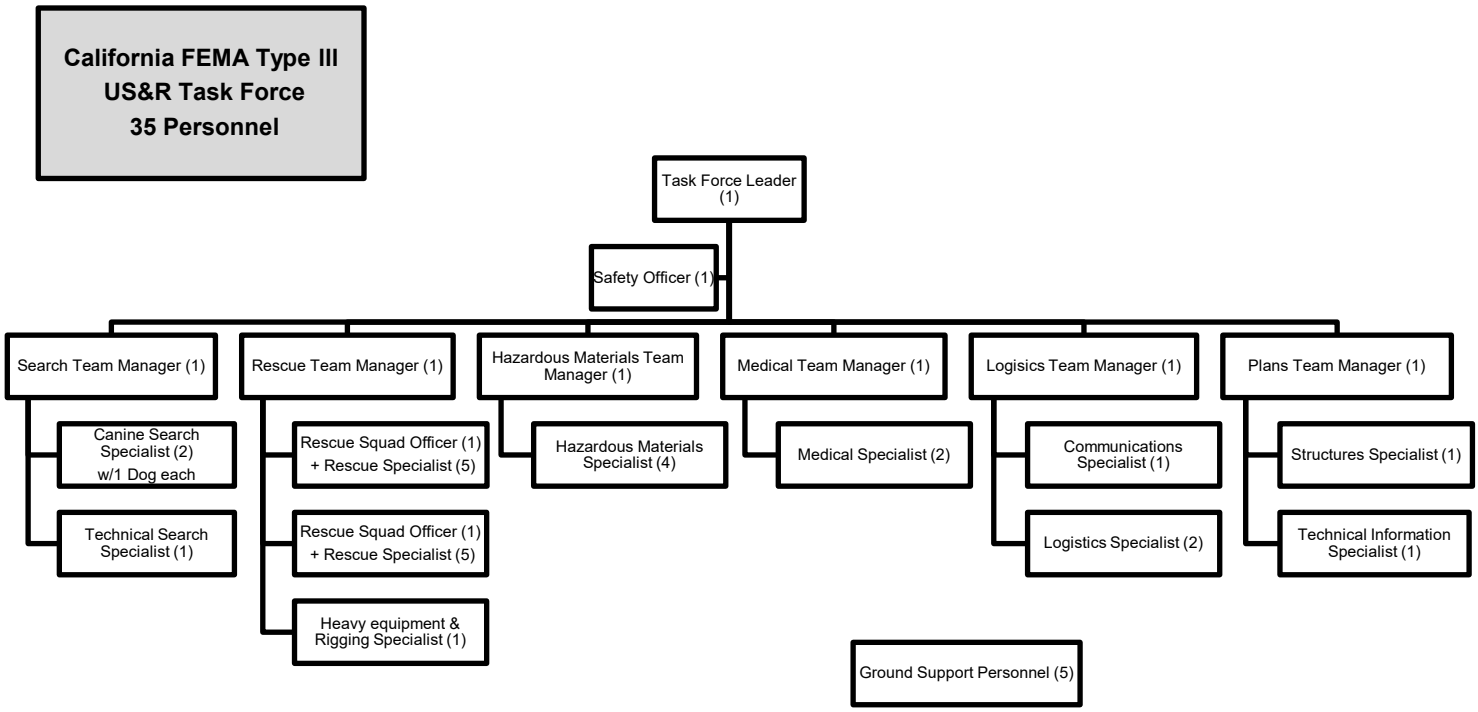
US&R TASK FORCE MODELS



The California Regional US&R Task Force is comprised of 30 members and is configured to rapidly respond to incidents within the state. As an initial attack and extended attack resource, California Regional US&R Task Forces deploy within 45 minutes of activation. Emphasis is given to speed of deployment and equipment is non-palletized for quick access and deployment. The California Regional US&R Task Force coordinates and conducts search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from damaged structures. They operate in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water. They are capable of search and rescue operations involving the collapse or failure of Heavy Floor, Pre-cast Concrete and Steel Frame Construction, high angle rope rescue (including high-line systems), confined space rescue (permit required), mass transportation (subway, rail, bus, etc.) rescue, trench/excavation, heavy rigging, wide area search and mud & debris flow. California Regional US&R Task Forces are self-sustaining for 24 hours and deployable for up to 14 days.

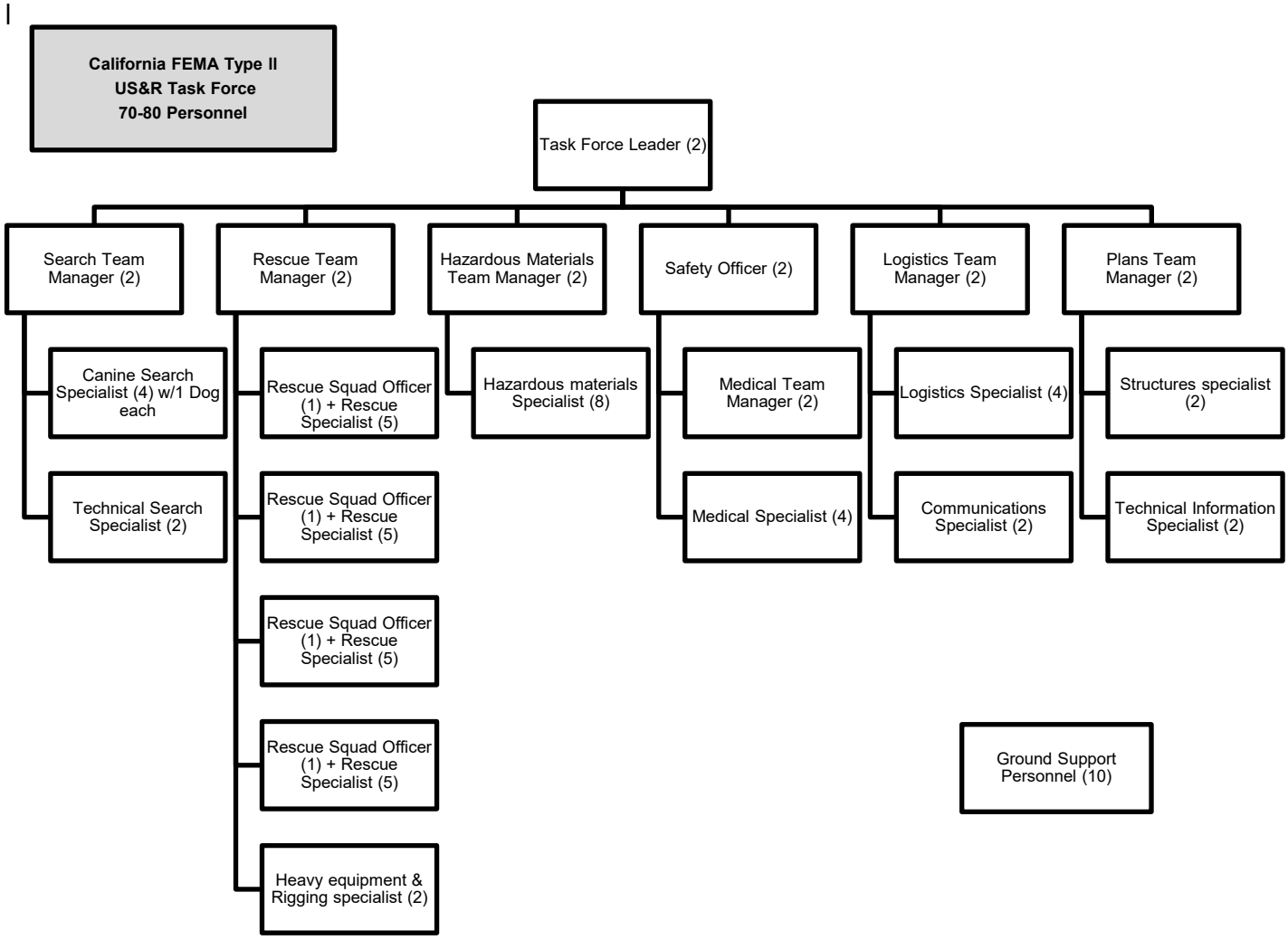


The California FEMA Type 4 Task Force is capable of operations in light frame and concrete construction, rope rescue, confined space rescue, wide area search. In this configuration at least two of the Rescue Team Managers and Rescue Specialists must maintain currency as Technical Search Specialists. (See both *National US&R Response System* and *NIMS Typing Definition* documents for further). They operate in one 12-hour shift. All types of California FEMA US&R Task Forces are self-sustaining for 72 hours and deployable for up to 14 days.

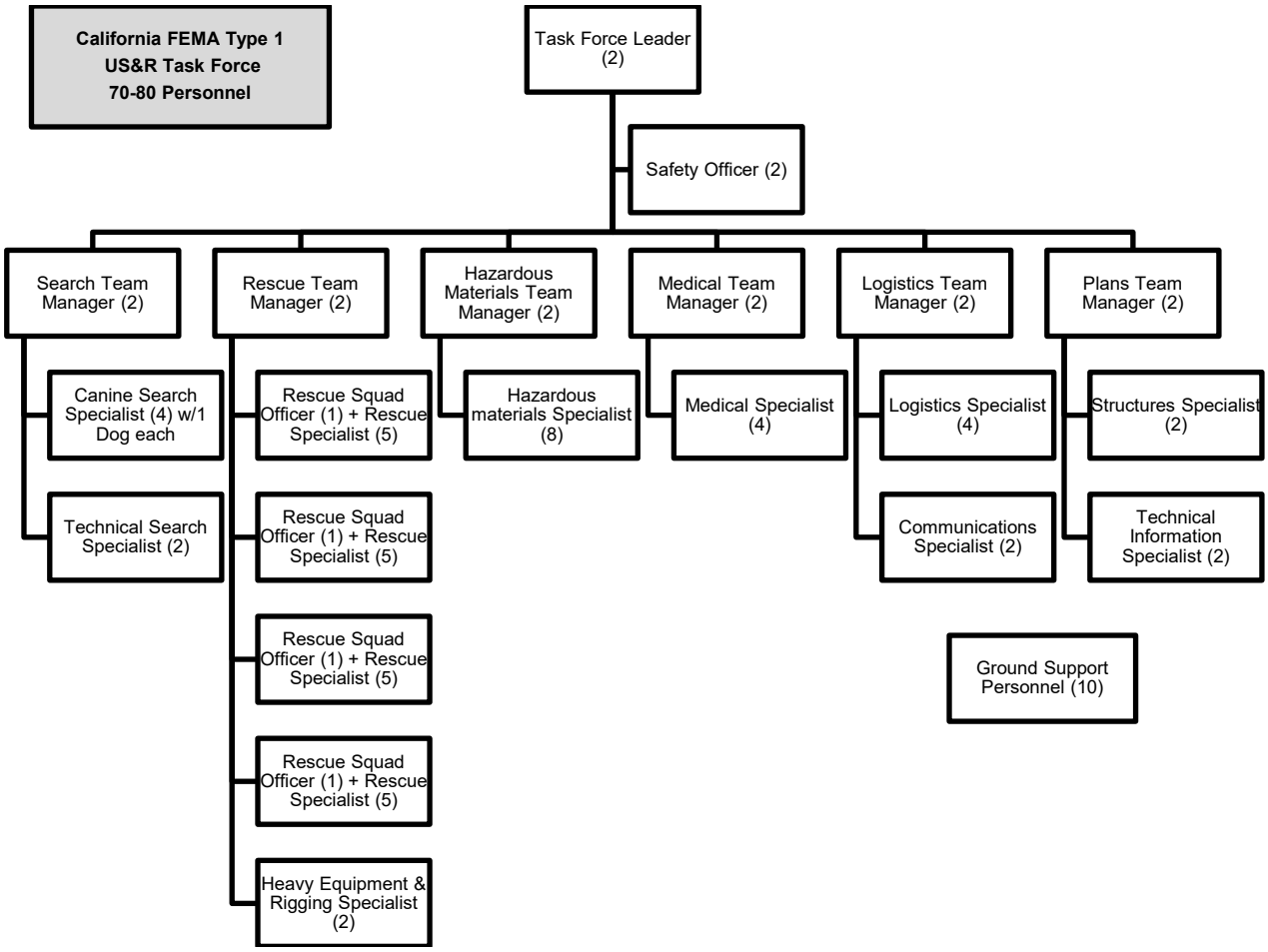


The California FEMA Type 3 Task Force operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water. They are capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including highline systems), confined space rescue (permit required), trench/excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue and mud & debris flow. In this configuration, the Search Team Manager is also certified as a Canine Search Specialist (See both *National US&R Response System* and *NIMS Typing Definition* documents for further). The task force coordinates and conducts search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from damaged structures. All types of California FEMA US&R Task Forces are self-sustaining for 72 hours and deployable for up to 14 days.

I



The California FEMA Type 2 Task Force consists of four Rescue Squad Officer's and twenty Rescue Specialists who must maintain currency as NIMS Type 1 Structural Collapse Rescue Technicians (See both *National US&R Response System* and *NIMS Typing Definition* documents for further). 14 of the 70 task force personnel must also maintain currency consistent with NFPA 1006 Chapter 11 (Level 2). The task force coordinates and conducts search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from damaged structures. It operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water. It is capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including highline systems), confined space rescue (permit required), trench/excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue and mud & debris flow. All types of California FEMA US&R Task Forces are self-sustaining for 72 hours and deployable for up to 14 days.



The California FEMA Type 1 Task Force consists of four NIMS Type 1 Structural Collapse Rescue Squad Officer's and twenty NIMS Type 1 Structural Collapse Rescue Technicians must maintain currency as NIMS Type 1 Structural Collapse Rescue Technicians (See both *National US&R Response System* and *NIMS Typing Definition* documents for further). 14 of the 70 task force personnel must also maintain currency consistent with NFPA 1006 Chapter 11 (Level 2). The task force coordinates and conducts search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from damaged structures. It operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water. It is capable of operations in heavy frame, reinforced concrete, high-angle rope rescue (including highline systems), confined space rescue (permit required),trench/excavation, wide area search, still water/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue and mud & debris flow. Deploys a CBRNE functional Haz-Mat capability, to include appropriate Level B PPE that can perform operations in a structural collapse contaminated environment for at least 12 hours and capable of being extended up to an additional 24 hours when augmented with additional equipment. Level B PPE is included for response to CBRNE incidents. All types of California FEMA US&R Task Forces are self-sustaining for 72 hours and deployable for up to 14 days.

Chapter 4: Position Descriptions and Training Requirements

Training Requirements Concept of Operations

With the ever-increasing complexity, frequency and breadth of emergencies and disasters; interoperability between responding agencies and emergency responders is extremely important.

At the most basic level, skills interoperability means there is an expectation of reasonable equality of skills based on a specific position within a technical search and rescue resource's standard position description. Responders must be confident of each other's standard training, standard operating procedures (SOPs), and policies. technical search and rescue resource(s) within the tiered response of the California US&R System must be able to work together to achieve their common goal of search, rescue, preventing further injury and reducing property damage, including and especially their own.

The development of positive relationships between different agencies must continue to be an on-going priority. The effort to understand not only the basics of each other's operational responsibilities, but to share common certifications whenever possible and ensure "cross-over" or equivalencies are allowed and understood is particularly important. Mission tasking, levels of responsibility, logistical capability and whether a technical search and rescue resource(s) is considered an initial attack, extended attack, or planned need resource all effects Position Specific Training Requirements.

Considering existing California and nationally accepted standards, relevant education, training, experience, physical/medical fitness, certification, and licensing criteria to define the baseline criteria for each job title listed in this chapter. These baseline criteria represent the minimum requirement for Technical Rescue/US&R personnel to participate and meet California FIRESCOPE standards.

This chapter outlines requirements for all typed technical search and rescue resource(s) within the California FIRESCOPE system, in accordance with Cal OES guidelines. This chapter also includes all federal training requirements in accordance with the Federal Emergency Management Agency (FEMA). Federal requirements are included in this document to allow participating local agencies to understand National Response Framework capabilities and limitations. The federal requirements included will also aid in interoperable training efforts and reference for local public safety agencies who participate in the Federal US&R Response System.

All listed required training is based on current course presentation and naming convention(s). Accepted state or federal course equivalencies are recognized.

Search and Rescue Personnel Training General Requirements

1. Must be able to meet the physical requirements of the sponsoring agency with or without accommodations.
2. Must possess a knowledge of technical search and rescue operations.
3. Complete initial blood-borne pathogen training in accordance with OSHA 29 CFR 1910.1030/CCR Title 8 Section 5193.
4. Must maintain current inoculations for AHJ.
5. Must be able to function safely at heights and on or around rubble.
6. Complete critical incident stress awareness training and must be aware of the signs, symptoms, and corrective measures of critical incident stress syndrome.
7. Must understand and adhere to safe working practices and procedures as required in the urban disaster environment.
8. Must have a working knowledge of the California's US&R Response System, organizational structure, operating procedures, safety practices, terminology, communications protocols, and knowledge of all US&R and technical rescue equipment of assigned unit.
9. Must have completed the First Responder Operational Level for Hazardous Materials as per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response. CCR Title 8 Section 5192.
10. Must be currently certified in Cardiopulmonary Resuscitation - Basic Life Support.
11. Must have a working knowledge of the Incident Command System including successful completion of the ICS-100, ICS-200 and the on-line courses IS-700 and IS-800.
12. Complete initial and refresher training as required for respiratory protection training per OSHA 29 CFR 1910.134 (k)/CCR Title 8 Section 5144(F)(e).
13. Complete the FEMA Enhanced Operations in the Contaminated Environment Course.
14. Completion of the appropriate training and Job Performance Requirements (JPR's) in *NFPA 1006: Standard for Technical Rescue Personnel Professional Qualifications* and *NFPA 1670: Standard on Operations and Training for Technical Search and Rescue Incidents* may be considered for qualification in place of the SFT course for meeting the training requirements for specific positions.
15. Completion of search and data collection awareness level training.
16. The authority having jurisdiction shall assure that the individual meets or exceeds the required knowledge, skills, and abilities (KSA's) outlined in this document under the system position requirements.

Swiftwater/Flood Search and Rescue Position Specific Requirements:

SWIFTWATER/FLOOD SEARCH AND RESCUE TECHNICIAN

The Swiftwater/Flood Search and Rescue Technician performs search, rescue, and recovery in various water environments. The Swiftwater/Flood Search and Rescue Technician reports directly to a Rescue Squad Officer.

Description of Duties:

- Implementing technical skills and operating equipment necessary for completing the water rescue portion of the action plan in a safe manner
- Performing supervised water operations and providing periodic progress reports as needed
- Operating and ensuring accountability and maintenance for all issued equipment
- Performing additional tasks or duties as assigned
- Evaluating and modifying water operational tactics as needed

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to become Swiftwater/Flood Search and Rescue Technician. The intent of these requirements is to select personnel who are fully capable of providing the water operational tactics and techniques required in a disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
   a. Meet requirements of NFPA 1006 Rescue Technician
3. Complete the required:
   a. California State Fire Training, Firefighter 1 or equivalent
   b. California State Fire Training, Rope Rescue Operations
   c. California State Fire Training, Structural Collapse Specialist 1
   d. California State Fire Training, Confined Space Rescue Technician
   e. California State Fire Training, Structural Collapse Specialist 2
   f. California State Fire Training, Trench Rescue Technician
   g. California State Fire Training, Rope Rescue Technician
   h. California State Fire Training, River & Flood Rescue Technician

   NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

4. Current Certification as a California Emergency Medical Technician

5. Annual demonstration of swimming proficiency pool swim evaluation. Minimum 500 yards in 19 minutes or International Association Dive and Rescue Specialist (IADRS) Watermanship evaluation per NFPA 1006. Possible additional requirements per AHJ.
6. Annual refresher of related search and rescue skills and abilities in water environments per NFPA 1006
7. Refresher of rescue skills in moving water by functioning in this position during an operational incident, planned event, participation in exercise, drill, or simulation once every three years or at the determination of the AHJ
8. GPS and data collection awareness with annual refresher training
9. Helicopter Awareness Training
10. Every 5 years, Peer Evaluation
    a. Evaluation of staffing and requirements for staffing
    b. Evaluation of training records
    c. Evaluation of required equipment

Recommended Training:

1. Complete the Cal OES Regional Technical Search Specialist Course

-OR-

The FEMA Technical Search Specialist course, or equivalent.

Required Experience:

1. Satisfactory performance as a California State Fire Training Firefighter II or equivalent.

SWIFTWATER/FLOOD SEARCH AND RESCUE TECHNICIAN - BOAT OPERATOR

The Swiftwater/Flood Search and Rescue Technician - Boat Operator is a qualified Swiftwater/Flood Search and Rescue Technician that operates the boat and provides direction to the Boat Bowman and is ultimately responsible for all aspects of boat operations. The Swiftwater/Flood Search and Rescue Technician - Boat Operator reports directly to a Rescue Squad Officer.

Description of Duties:

- Operating and performing routine field maintenance of watercraft and equipment
- Performs search, rescue, and recovery in various water environments
- Operates within the Incident Command System (ICS) in a specialized position within the Swiftwater/Flood Search and Rescue Team

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to become Swiftwater/Flood Search and Rescue Technician - Boat Operator. The intent of these requirements is to select personnel who are fully capable of providing the water operational tactics and techniques required in a disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete all Swiftwater/Flood Search and Rescue Technician requirements
3. California Boating Safety Course
4. Obtain California Boater Card
5. California State Fire Training, River/Flood Recue Boat Technician

California Regional US&R Task Force Position Specific Requirements:

REGIONAL HAZARDOUS MATERIALS SPECIALIST

The Regional Hazardous Materials Specialist is responsible for performing the various hazardous materials functions for the task force during incident operations. The Hazardous Materials Specialist reports directly to the Search Team Manager or other supervisor, as appropriate.

Description of Duties:

- Provide an initial and ongoing survey (detection, monitoring) for, and identification of, the presence of hazardous materials at search and rescue sites.
- Proficiency with the set up and use of decontamination systems and equipment.
- Directing decontamination for task force members, victims, canine, or equipment.
- Performing minor mitigation operations.
- Technical expertise to advise Team Managers regarding all hazardous material issues in order to plan for tactical operations.
- Document all related information regarding the incident
- Adhere to all safety procedures
- Properly utilizing the detection monitors and devices in US&R cache.
- Proficiency in donning/doffing personnel protective equipment in US&R cache.
- Proficiency in building triage and US&R marking systems.
- Performing regular assessments for hazardous conditions, such as carbon monoxide from generators, or any other contaminants
- Establishing and maintain a liaison with hazardous materials personnel from other resources
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Hazardous Materials Specialist in support of a resource's activities. The intent of these requirements is to select personnel fully capable of providing competent hazardous materials assessments and advice to Task Force personnel in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Meet and maintain the requirements as a certified Hazardous Materials Technician or Specialist as per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response. CCR Title 8 Section 5192.
3. Meet and maintain the AHJ competencies in accordance with National Fire Protection Association standard 472 Standard for Professional Competence of Responders to Hazardous Materials Incidents.
4. Complete the required:
    a. California State Fire Training, Firefighter 1, or equivalent training
    b. California State Fire Training, Rope Rescue Operations
    c. California State Fire Training, Structural Collapse Specialist 1
    d. California State Fire Training, Confined Space Rescue Technician

    NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

Required Experience:

1. Satisfactory performance as a California State Fire Training, Firefighter 2 or equivalent

Recommended Training:

1. Complete the Weapons of Mass Destruction Radiological/Nuclear for Hazardous Materials Technician (Course PER-241), U.S. Department of Energy National Security Administration Nevada Test Site.
2. Complete the WMD Hazardous Materials Technician Training (HT) (Course PER 261), Centers for Domestic Preparedness, Anniston Alabama.
3. California State Fire Training, Structural Collapse Specialist 2
4. California State Fire Training, Trench Rescue Technician
5. California State Fire Training, Rope Rescue Technician

REGIONAL HEAVY EQUIPMENT & RIGGING SPECIALIST

The Regional Heavy Equipment and Rigging Specialist is responsible for performing various assessments and construction-related liaison for the task force during incident operations. The Heavy Equipment and Rigging Specialist reports directly to the Rescue Team Manager.

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Heavy Equipment & Rigging Specialist in support of a resource's activities. The intent of these requirements is to select personnel fully capable of providing competent assessments and advice to task force personnel in the urban disaster environment.

Description of Duties:

- Ensure the safety of Task Force members at disaster sites pertaining to the positioning and operations of cranes and other heavy equipment.
- Assess the need for and capabilities of several types of construction-related equipment to assist task force personnel in US&R activities.
- Preparing site for and assisting with positioning and setup of cranes and other heavy equipment.
- Identify various rigging techniques to assist in the rescue of victims or stabilization of collapsed buildings, including development of rigging plans and procedures.
- Interact with and coordinate efforts between the task force personnel and heavy equipment operators, contractors, and organized labor.
- Adhering to all safety procedures.
- Providing documentation to assist Task Force in procuring cranes and other heavy equipment, as well as maintaining daily logs.
- Providing accountability, maintenance, and minor repairs for all issued equipment.
- Performing additional tasks or duties as assigned.

Required Training:

1. Complete all General Training requirements.
2. Complete the FEMA Heavy Equipment and Rigging Specialist curriculum or equivalent.
3. Complete the required:
    a. California State Fire Training, Firefighter 1, or equivalent training
    b. California State Fire Training, Rope Rescue Operations
    c. California State Fire Training, Structural Collapse Specialist 1
    d. California State Fire Training, Confined Space Rescue Technician

e. California State Fire Training, Structural Collapse Specialist 2
f. California State Fire Training, Trench Rescue Technician
g. California State Fire Training, Rope Rescue Technician

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

Additional Specific Requirements:

1. Experience in the heavy construction field, such as heavy equipment operator, crane operator, iron worker, rigger, or another applicable field

-OR-

A minimum of three years of experience as a Rescue Specialist

REGIONAL LOGISTICS SPECIALIST

The Regional Logistics Specialist is responsible for ensuring the preparation and maintenance of the task force equipment cache. The Logistics Specialist reports directly to the Task Force Leader.

Description of Duties:

- Coordinate the transporting, distribution, and maintenance of the Task Force equipment prior, during, and after mission assignments
- Procure equipment as directed by the Task Force Leader
- Ensure accountability and security of the task force equipment cache
- Maintain accurate and timely records and reports
- Adhere to all safety procedures
- Maintain and repairs the task force equipment cache
- Assist with over-all management of task force facilities and fleet
- Coordinate with military and/or civilian officials for transportation needs
- Perform additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Logistics Specialist in support of Resource's activities. The intent of these requirements is to select personnel capable of managing the logistics needs of the Task Force in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course or equivalent

Recommended Training:

1. California State Fire Training, Firefighter 1, or equivalent training
2. California State Fire Training, Rope Rescue Operations
3. California State Fire Training, Structural Collapse Specialist 1
4. California State Fire Training, Confined Space Rescue Technician
5. California State Fire Training, Structural Collapse Specialist 2
6. California State Fire Training, Trench Rescue Technician
7. California State Fire Training, Rope Rescue Technician

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

REGIONAL PLANNING TEAM MANAGER

The Regional Planning Team Manager is responsible for planning aspects of the Task Force during incident operations. The Plans Team Manager supervises the Technical Information Specialist. The Planning Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the operational planning of the Task Force
- Coordinating, managing, and supervising all planning component activities
- Determining the planning component organizational and logistics needs
- Receiving briefings and situation reports and ensures that all planning personnel are kept informed of status changes
- Providing situation reports and maintaining records and reports
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Planning Team Manager in support of resources activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the planning component in the urban disaster environment.

Required Training:

1. Complete all General Training requirements
2. Complete ICS-300 Intermediate ICS
3. Complete ICS-400 Advanced ICS
4. FEMA US&R Plans Team Manager Course or equivalent (Plans Section Chief-L962)

Recommended Training:

1. Complete FEMA National US&R Task Force Leaders course or equivalent
2. Large Area Search Course
3. Complete O-305: All Hazard Incident Management Training
4. Complete L965 All Hazard Resource Unit Leader course or equivalent
5. Complete L964 All Hazard Situation Unit Leader course or equivalent

REGIONAL RESCUE SPECIALIST

The Regional Rescue Specialist is responsible for performing the rescue function of the Task Force incident operation. The Rescue Specialist reports directly to a Rescue Squad Officer.

Description of Duties:

- Implementing technical skills and operating equipment necessary for completing the rescue portion of the action plan
- Performing rescue operations under the direct supervision of a Rescue Squad Officer and providing periodic progress reports as needed
- The operation and routine field maintenance of rescue tools and equipment
- Ensuring accountability and maintenance for all issued equipment
- Evaluating and modifying rescue tactics as needed
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing the rescue tactics and techniques required in a disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
    a. Job Performance Requirements – Chapter 5
    b. Vehicle and Machinery Rescue – Chapter 10
4. Complete the required:
    a. California State Fire Training, Firefighter 1, or equivalent training
    b. California State Fire Training, Rope Rescue Operations
    c. California State Fire Training, Structural Collapse Specialist 1
    d. California State Fire Training, Confined Space Rescue Technician
    e. California State Fire Training, Structural Collapse Specialist 2

f. California State Fire Training, Trench Rescue Technician
g. California State Fire Training, Rope Rescue Technician
h. California State Fire Training, Vehicle Extrication

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized) Note for cutoff date for SCS/RS3

5. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Satisfactory performance as a California State Fire Training Firefighter 2 or equivalent

Recommended Training:

1. Cal OES, Regional Technical Search Specialist Course
2. California State Fire Training, River & Flood Water Rescue Technician
3. California State Fire Training, Rescue Boat Operations
4. California State Fire Training, Personal Watercraft Rescue Operations
5. California State Fire Training, Animal Technical Rescue Technician
6. California State Fire Training, ICS-300 Intermediate ICS
7. California State Fire Training, S-270 Basic Air Operations

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

REGIONAL RESCUE SQUAD OFFICER

The Regional Rescue Squad Officer is responsible for supervising one or more Task Force Rescue Squad(s). The Rescue Squad Officer reports directly to the Rescue Team Manager.

Description of Duties:

- Directly supervising Rescue Squad(s) and other assigned personnel
- Implementing the rescue component of the Task Force
- Determining organizational and logistical needs for the Rescue Squad(s) and work site
- Providing periodic progress reports to the Rescue Team Manager
- Maintaining records and reports
- Preparing performance evaluations for assigned personnel
- Ensuring accountability and maintenance for all issued equipment
- Evaluating and modifying rescue tactics as needed
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Squad Officer in support of the resource's activities. The intent of these requirements is to select functional officers capable of effectively managing and supervising the Rescue Squad(s) and assigned personnel in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
    a. Job Performance Requirements – Chapter 5
    b. Vehicle and Machinery Rescue – Chapter 10
        i. California State Fire Training, Firefighter 1, or equivalent training
        ii. California State Fire Training, Rope Rescue Operations
        iii. California State Fire Training, Structural Collapse Specialist 1
        iv. California State Fire Training, Confined Space Rescue Technician
        v. California State Fire Training, Structural Collapse Specialist 2
        vi. California State Fire Training, Trench Rescue Technician
        vii. California State Fire Training, Rope Rescue Technician
        viii. California State Fire Training, Vehicle Extrication

    NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

5. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Shall have experience in structural collapse operations to include participation in field exercise(s) and/or a deployment as a Rescue Specialist

Recommended Training:

1. Complete Technical Search Specialist course
2. California State Fire Training, Rescue Boat Operations
3. California State Fire Training, Personal Watercraft Rescue Operations
4. California State Fire Training, Animal Technical Rescue Technician
5. California State Fire Training, ICS-300 Intermediate ICS
6. California State Fire Training, S-270 Basic Air Operations
7. California State Fire Training, River & Flood Water Rescue

    NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

REGIONAL RESCUE TEAM MANAGER

Reports directly to the US&R Task Force Leader. Is responsible for managing US&R Rescue Operations and supervising assigned resources:

- Assisting in the development and implementation of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all functional groups involved in rescue activities
- Determining rescue organizational and logistical needs
- Receiving briefings and situation reports and ensuring that all rescue personnel are kept informed of mission objectives and status changes
- Providing situation updates and maintaining records and reports
- Preparing performance evaluations for assigned personnel
- Ensuring accountability and maintenance for all issued equipment
- Ensuring accountability of all assigned personnel
- Provide a mission specific Rapid Intervention Plan including personnel and equipment needs
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Team Manager in support of the resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising rescue operations in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
    a. Job Performance Requirements – Chapter 5
    b. Vehicle and Machinery Rescue – Chapter 10
4. Complete the required:

    a. California State Fire Training, Firefighter 1, or equivalent training
    b. California State Fire Training, Rope Rescue Operations
    c. California State Fire Training, Structural Collapse Specialist 1
    d. California State Fire Training, Confined Space Rescue Technician
    e. California State Fire Training, Structural Collapse Specialist 2
    f. California State Fire Training, Trench Rescue Technician
    g. California State Fire Training, Rope Rescue Technician
    h. California State Fire Training, Vehicle Extrication

    NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

5. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Shall have experience in structural collapse operations to include participation in field exercise(s) and/or a deployment as a Rescue Squad Officer

Recommended Training:

1. Cal OES or FEMA, Technical Search Specialist Course
2. Complete ICS-400 in accordance with the NIMS Training Program
3. Complete FEMA GPS Operations Level course, or equivalent
4. Complete Heavy Equipment Rigging Specialist (HERS) course
5. Complete California or FEMA Task Force Leaders course, as appropriate
6. Complete FEMA Plans Team Manager course
7. California State Fire Training, S-270 Basic Air Operations
8. California State Fire Training, River & Flood Water Rescue
9. California State Fire Training, Rescue Boat Operations
10. California State Fire Training, Personal Watercraft Rescue Operations

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

REGIONAL SAFETY OFFICER

The task force Regional Safety Officer is responsible for monitoring and assessing the safety aspects of the task force during training, exercises, and incident operations. The task force Safety Officer reports directly to the Task Force Leader.

Description of Duties:

- Overseeing all health and safety of all task force personnel during day-to-day operations, training, and exercises as well as on deployment
- Coordinating with task force Team Managers relative to the health, welfare, and safe operations of their assigned personnel
- Preventing injuries and illness of task force members through appropriate administrative and engineering controls of hazards including enforcement of safety policies and procedures
- Conduct site safety analysis, complete required ICS documents for IAP/TAP, develop safety messages and conduct safety briefings
- Work with Task Force Team Managers to establish acceptable entry conditions and appropriate personal protective equipment to be worn by personnel entering the hazard zone
- Establish and enforce the use of a personnel accountability system to be used during training, exercises, and actual disaster deployments
- Immediate intervention of activities to prevent the loss of life and prevention of injuries

- Conduct incident/accident investigations with appropriate task force personnel under the direction of the Task Force Leader. Prepare post incident injury reports and submit them to the Task Force Leader
- Preparing and maintaining entry permits, records, and reports
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a (Task Force) Safety Officer in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the safety function in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Complete ICS-300
4. Complete ICS-400
5. California State Fire Training: S-404 Safety Officer Course

   -OR-

   E/L-954 All Hazards Safety Officer Course

   OR

   FEMA US&R Safety Officer Course

6. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a. Job Performance Requirements – Chapter 5
   b. Vehicle and Machinery Rescue – Chapter 10

7. Complete the required:

   a. California State Fire Training, Firefighter 1, or equivalent training
   b. California State Fire Training, Rope Rescue Operations
   c. California State Fire Training, Structural Collapse Specialist 1
   d. California State Fire Training, Confined Space Rescue Technician
   e. California State Fire Training, Structural Collapse Specialist 2
   f. California State Fire Training, Trench Rescue Technician
   g. California State Fire Training, Rope Rescue Technician
   h. California State Fire Training, Vehicle Extrication

   NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

8. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Shall have experience in structural collapse operations to include participation in field exercise(s) and/or a deployment as a Rescue Specialist

Recommended Training:

1. Cal OES or FEMA, Technical Search Specialist Course
2. Complete FEMA GPS Operations Level course, or equivalent
3. Complete Heavy Equipment Rigging Specialist (HERS) course
4. Complete California or FEMA Task Force Leaders course, as appropriate
5. Complete FEMA Planning Team Manager course.
6. Complete O-305: All Hazard Incident Management Training
7. California State Fire Training, River & Flood Water Rescue

REGIONAL SEARCH TEAM MANAGER

The Search Team Manager is responsible for managing the search function of the task force or the search element during a US&R or technical rescue incident. The Search Team Manager supervises the Technical Search Specialists. The Search Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the search component of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all search and reconnaissance activities
- Participating in the oversight, administrative and operational control of the development, implementation, and operational aspects of search component training
- Providing research and development input at the task force level for the implementation and evaluation of modern technologies, equipment, tactics, and skills as they pertain to the search component
- Land navigation and site mapping
- Determining search and reconnaissance operational, organizational, and logistical needs
- Ensuring that all assigned personnel are kept informed of mission objectives and status changes to include briefings and debriefings
- Preparing performance evaluations for assigned personnel
- Provides situation updates, documents, and maintains records and reports
- Providing oversight for accountability, maintenance, and minor repairs for all issued/assigned equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Search Team Manager in support of resource's activities. The intent of these requirements is to select functional managers, capable of effectively managing and supervising the search component, in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Complete ICS-300 in accordance with the NIMS Training Program
4. Complete the Cal OES, Regional Technical Search Specialist Course

   -OR-

   The FEMA Technical Search Specialist Course

5. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a. Job Performance Requirements – Chapter 5
   b. Vehicle and Machinery Rescue – Chapter 10

6. Complete the required:

   a. California State Fire Training, Firefighter 1, or equivalent training
   b. California State Fire Training, Rope Rescue Operations
   c. California State Fire Training, Structural Collapse Specialist 1
   d. California State Fire Training, Confined Space Rescue Technician
   e. California State Fire Training, Structural Collapse Specialist 2
   f. California State Fire Training, Trench Rescue Technician
   g. California State Fire Training, Rope Rescue Technician

   NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

7. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Shall have experience in technical or canine search operations to include but not limited to participation in field exercise(s) and SAR deployments or equivalent qualification as determined by the SA/AHJ
2. Shall have experience in structural collapse operations to include participation in field exercise(s) and/or a deployment as a Technical Search Specialist

Recommended Training:

1. California State Fire Training, River & Flood Water Rescue
2. FEMA Canine Search Specialist Course
3. FEMA Task Force Leaders' course, or equivalent
4. Complete FEMA GPS Operations Level course, or equivalent
5. Complete ICS-400; Advanced ICS

REGIONAL TASK FORCE LEADER

The Regional Task Force Leader is responsible for managing all aspects of a mission including operational and administrative issues from the time of activation through the return to the home jurisdiction. This includes all personnel and equipment resources as well as overseeing and directly supervising the task force management. The TFL is responsible for the development and completion of all task force tactical objectives as well as the proper reporting, record keeping, and after-action requirements. The TFL reports directly to one of the following:

1. Incident Commander, or
2. Operation Chief / Division Group Supervisor. or
3. The Incident Support Team (IST) Leader at a mission location

Description of Duties:

- Oversee the mobilization and movement activities of the task force
- Familiarity with task force operations, including search, rescue, medical, logistical, and hazardous materials decontamination procedures
- Developing and implementing the Task Force Tactical Action Plan
- Addressing the coordination, management, and supervision of all task force activities
- Ensuring the development of all task force organizational and logistical needs
- Receiving briefings and ensuring that all task force personnel are kept informed of mission objectives and status changes
- Providing regular situation reports to the IC, Division or Group Supervisor or the IST Leader
- Contacting the Cal OES AREP for assistance with problems encountered on the incident, including mechanical, operational, or logistical issues
- Performing additional task and duties, as assigned during a mission
- Adhering to all safety procedures
- Ensuring the completion of all the required reports and maintenance records
- Ensuring incident stress management activities are planned and conducted
- Ensuring resource acquisitions are properly processed
- Preparing performance evaluations- ICS-225 for assigned personnel
- Manage all demobilization and return to readiness issues

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Task Force Leader in support of a resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising all aspect of the task force in the urban disaster environment.

The requirements and criteria for the Task Force Leader are as follows:

- A comprehensive knowledge of NIMS/ICS; the NRP; the California US&R Response Plan, and the FEMA, the organizational structure, operating procedures, safety practices, terminology, and communications protocols of both State & Federal systems.
- A comprehensive knowledge of the Task Force functions, and urban search and rescue operations, tactics, strategy, and safety considerations
- An understanding of other disaster response organization.
- Knowledge of available technology in support of US&R missions and objectives
- An awareness of the hazards associated with various disaster environments
- A knowledge of supervisory and personnel management techniques

Required Training:

1. Complete all General Training requirements
2. California State Fire Training, Firefighter 1, or equivalent training
3. Complete ICS-300 Intermediate ICS
4. Complete ICS-400 Advanced ICS
5. Complete FEMA GPS Awareness Level course, or equivalent
6. Complete the Cal OES, Regional US&R Task Force Leaders Course

   -OR-

   FEMA US&R Response System Task Force Leaders' course, or equivalent
7. Obtain CICCS or NWCG Strike Team Leader Qualification or Certified Trainee.

Recommended Training:

1. Complete Cal OES, Technical Search Specialist Course
2. Complete a FEMA Structural Collapse Technician Course
3. Meet all requirements of Structural Collapse Technician as per NFPA 1670
4. Complete a FEMA Technical Search Specialist course, or equivalent
5. Complete a FEMA Planning Team Training course, or equivalent
6. Complete E/L 950: All Hazards Incident Commander Course or equivalent
7. Complete E/L 958: All Hazards Operations Section Chief Course or equivalent
8. Complete E/L 962: All Hazards Planning Section Chief Course or equivalent
9. Complete E/L 960: All Hazards Division/Group Supervisor Course or equivalent
10. California State Fire Training, Rope Rescue Operations

11. California State Fire Training, Structural Collapse Specialist 1
12. California State Fire Training, Confined Space Rescue Technician
13. California State Fire Training, Structural Collapse Specialist 2
14. California State Fire Training, Trench Rescue Technician
15. California State Fire Training, Rope Rescue Technician
16. California State Fire Training, River & Flood Water Rescue
17. Complete S-270: Basic Air Operations
18. Current Certification as a California Emergency Medical Technician

NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

REGIONAL TECHNICAL INFORMATION SPECIALIST

The Regional Technical Information Specialist is responsible for documenting, tracking, data transfer and retrieving all pertinent information for the Task Force during incident operations. The Technical Information Specialist reports directly to the Planning Team Manager or appropriate supervisor.

Description of Duties:

- Gathering requested information from all available sources and forwarding to the Planning Team Manager for incorporation in the planning function
- Transferring operational data generated from search & rescue operations to appropriate incident and task force managers
- Creating, displaying, providing, and compiling documentation for all pertinent Task Force and incident information via written, audio, and visual mediums
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Technical Information Specialist in support of the resource's activities. The intent of these requirements is to select personnel fully capable of providing competent information management for the task force in the urban disaster environment.

Required Training:

- Complete all general training requirements

Recommended Training:

1. California State Fire Training, Firefighter I or equivalent
2. Complete ICS-300 Intermediate ICS
3. Complete FEMA GPS Awareness Level course, or equivalent
4. Complete Cal OES, Technical Search Specialist Course

-OR-

Complete FEMA Technical Search Specialist Course

5. California State Fire Training, Rope Rescue Operations
6. California State Fire Training, Structural Collapse Specialist 1
7. California State Fire Training, Confined Space Rescue Technician
8. California State Fire Training, Structural Collapse Specialist 2
9. California State Fire Training, Trench Rescue Technician
10. Current Certification as a California Emergency Medical Technician or equivalent
11. Complete E/L 962: All Hazards Planning Section Chief Course or equivalent
12. Complete S-244: Field Observer
13. Complete S-341: GIS Specialist for Incident Management
14. Complete S-245: Display Processor
15. Complete a FEMA Planning Team Training course, or equivalent
16. Complete a FEMA Structural Collapse Technician Course
17. Complete G/E/L - 965 All Hazard Resource Unit Leader Course
18. Complete G/E/L - 964 All-Hazards Situation Unit Leader Course
19. Complete ICS-400 Advanced ICS
20. Complete the Cal OES, Regional US&R Task Force Leaders Course

-OR-

FEMA US&R Response System Task Force Leaders' course, or equivalent

REGIONAL TECHNICAL SEARCH SPECIALIST

The Regional Technical Search Specialist is responsible for performing the technical search function of the incident. The Technical Search Specialist reports directly to the Search Team Manager. The Technical Search Specialist may operate as a single resource or as assigned to a task force, as appropriate.

Description of Duties:

- Searching structures in US&R environments or other locations indicated in the mission assignment, utilizing appropriate technical search equipment and techniques
- Documenting and marking locations of victims, potential victims, and hazards
- Making assessments using technical search equipment
- Transfers search data to Technical Information Specialist or Plans Section personnel, as appropriate
- Land navigation, site mapping and GPS operations
- Cooperating with and assisting other search and rescue resources
- Providing accountability, maintenance, and minor repairs of all issued equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Technical Search Specialist in support of Resource's activities. The intent of these requirements is to select competent personnel, fully capable of providing state-of-the-art search techniques and tactics required, in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete the Cal OES Regional Technical Search Specialist Course

   -OR-

   The FEMA Technical Search Specialist course, or equivalent

3. Complete FEMA GPS Awareness Level course, or equivalent
4. Complete ICS-300 in accordance with the NIMS Training Program
5. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a. Job Performance Requirements – Chapter 5
   b. Vehicle and Machinery Rescue – Chapter 10
6. Complete the required:
   a. California State Fire Training, Firefighter 1 or equivalent
   b. California State Fire Training, Rope Rescue Operations
   c. California State Fire Training, Structural Collapse Specialist 1
   d. California State Fire Training, Confined Space Rescue Technician
   e. California State Fire Training, Structural Collapse Specialist 2
   f. California State Fire Training, Trench Rescue Technician
   g. California State Fire Training, Rope Rescue Technician

   NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

7. Current Certification as a California Emergency Medical Technician

Required Experience:

1. Satisfactory performance as a California State Fire Training Firefighter 2 or equivalent

Recommended Training:

1. California State Fire Training, River & Flood Water Rescue
2. Complete NWCG GPS for Fire Management and ICS course or equivalent
3. Complete ICS-400; Advanced ICS
4. Complete a FEMA Canine Search Specialist course, or equivalent
5. Complete the Wide Area Search course

REGIONAL US&R PARAMEDIC

The Regional US&R Paramedic reports directly to the Task Force Leader or Rescue Team Manager as appropriate. The Regional US&R Paramedic is responsible for performing the medical function of the task force or for a single resource during incident operations.

Description of Duties:

- The general health considerations of and delivery of medical care to all single resource resources they are assigned to and/or task force personnel, victims, and search dogs, during disaster events
- Implementing the medical action plans specified by the incident.
- Accountability, maintenance, and minor repairs for all issued equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a US&R Paramedic in support of resource's activities. The intent of these requirements is to select personnel fully capable of providing medical care required by the incident or the task force in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a. Job Performance Requirements – Chapter 5
   b. Vehicle and Machinery Rescue – Chapter 10

4. Complete the required:

   a. California State Fire Training, Firefighter 1 or equivalent
   b. California State Fire Training, Rope Rescue Operations
   c. California State Fire Training, Structural Collapse Specialist 1
   d. California State Fire Training, Confined Space Rescue Technician
   e. California State Fire Training, Structural Collapse Specialist 2
   f. California State Fire Training, Trench Rescue Technician
   g. California State Fire Training, Rope Rescue Technician

   NOTE: (For SFT courses that have been updated or changed, previous courses that have been taken may be historically recognized)

5. Current license as a California Paramedic (EMT-P)

Required Experience:

1. Satisfactory performance as a California State Fire Training Firefighter 2 or equivalent
2. At least 1 year as a licensed and operational paramedic in the field

Recommended Training:

1. Fireline EMPF(S-223)
2. S-270: Basic Air Operations
3. Cal OES, Technical Search Specialist Course
4. FEMA Medical Specialist Course
5. California State Fire Training, River & Flood Water Rescue

National US&R Response System Task Force Position Specific Requirements:

FEMA CANINE SEARCH SPECIALIST

Reports directly to the Search Manager. The US&R Canine Search Specialist is responsible for performing the canine search function of the incident. Responsibilities include searching collapsed structures, water, debris piles, land and mudslides, or fire areas as assigned, using appropriate search techniques and dog handler skills. The US&R Canine Search Specialist is responsible for documenting locations of alerts and estimating the status of victims and cooperating with and assisting other search and rescue resources:

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Canine Search Specialist in support of Resource's activities. The intent of these requirements is to provide canine teams capable of using the search techniques and tactics required to support the Search function with the canine resource in various disaster environments.

Required Training:

1. Complete all General Training requirements.
1. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
2. Have current certification as a FEMA Canine Search Specialist Team member, SUSAR Type I canine certification standard, or equivalent certification.
3. Complete the FEMA Canine Search Specialist course, or equivalent.
4. Complete the FEMA GPS Awareness Level course, or equivalent.
5. Complete the required Technical Rescue Skill Sets.

Recommended Training:

1. Complete the FEMA Technical Search Specialist course or equivalent.
2. Complete FEMA GPS Operations Level course or equivalent
3. Complete a canine emergency field care course

FEMA COMMUNICATIONS SPECIALIST

The Communications Specialist is responsible for managing, and maintaining, all communications and communications systems for the task force. The Communications Specialist reports directly to the Logistics Team Manager or appropriate supervisor.

Description of Duties:

- Keeping the Task Force Leader and Logistics Manager informed of the capabilities and/or limitations of incident communications
- Assessing overall communications needs, obtaining frequencies, and developing the Task Force Incident Communications Plan
- The installation, operation, and maintenance of the task force communications systems, including radio, satellite, telephone, internet, GPS, and networks during incidents
- Coordinating communications with other entities
- Adhering to all safety procedures
- Accountability, preventive maintenance, and minor repairs of communications equipment
- Maintaining appropriate records and reports
- Always maintaining the communications cache in an operational state
- Developing requests for replacement, or repair, for consumable, inoperative, lost, damaged, or destroyed communications items
- Develop a Task Force Communications Plan (ICS 205) as part of Tactical Action Plan
- Operate as an IST Communications Center Dispatcher

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Communications Specialist in support of Resource's activities. The intent of these requirements is to select personnel capable of managing the communications needs of the task force in the disaster environment.

Required Training:

1. Complete all General Training requirement
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) http://www.training.fema.gov/EMIWeb/IS
3. Complete FEMA GPS Awareness Level course, or equivalent
4. Complete FEMA Communications Specialist course or equivalent

Recommended Training:

1. Complete the DHS/OEC All Hazards Communications Unit Leader course
2. Complete the DHS/OEC All Hazards Communications Technician Course
3. FEMA US&R Communications Network Technician Workshop
4. S258 Communications Technician
5. S358 Communications Unit Leader
6. ITSS Information Technology Services Specialist
7. Advanced Communications Specialist Qualification (ACOM US&R)

FEMA HAZARDOUS MATERIALS SPECIALIST

The Hazardous Materials (Haz-Mat) Specialist is responsible for performing the various hazardous materials functions for the task force during incident operations. The Hazardous Materials Specialist reports directly to the Hazardous Materials Team Manager or other supervisor, as appropriate.

Description of Duties:

- Providing an initial and ongoing survey (detection, monitoring, and sampling) for, and identification of, the presence of hazardous materials at search and rescue sites
- Proficiency with the set up and use of the decontamination system and equipment
- Directing decontamination procedures for any task force member victim, canine, or equipment
- Performing minor mitigation operations
- Utilizing their technical expertise to advise Team Managers regarding all hazardous material issues in order to plan for tactical operations
- Document all related information regarding the incident
- Adhering to all safety procedures
- Properly utilizing the detection monitors and devices in the US&R cache
- Proficiency in donning and doffing all personnel protective equipment in the US&R cache
- Proficiency in building triage and US&R marking systems
- Working with Logistics Team personnel to establish and maintain a regular maintenance scheduled for hazardous materials cache items requiring some, including calibration, battery charging, function tests, and field repair
- Performing regular assessments of the base of operations for hazardous conditions, such as carbon monoxide from generators, or any other contaminants
- Establishing and maintaining a liaison with hazardous materials personnel from other task forces
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Hazardous Materials Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing competent hazardous materials assessments and advice to Task Force personnel in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Meet and maintain the requirements as a certified Hazardous Materials Technician as per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
4. Meet and maintain the AHJ competencies in accordance with National Fire Protection Association standard 472 Standard for Professional Competence of Responders to Hazardous Materials Incidents to the level of Hazardous Materials Technician
5. Complete a WMD - Considerations for Hazardous Materials Specialist course
6. Complete all Technical Rescue Skill Set

Recommended Training:

1. Complete the Weapons of Mass Destruction Radiological/Nuclear for Hazardous Materials Technician (Course PER-241), U.S. Department of Energy National Security Administration Nevada Test Site.
2. Complete the WMD Hazardous Materials Technician Training (HT) (Course PER 261), Centers for Domestic Preparedness, Anniston Alabama.
3. Complete Task Force water purification system training
4. Complete Hazardous materials CONOP training

FEMA HAZARDOUS MATERIALS TEAM MANAGER

The Hazardous Materials Team Manager is responsible for managing the Hazardous materials functions of the task force and supervising the Hazardous Materials Specialists of the Task Force. The Hazardous Materials Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the Haz-Mat component of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all Haz-Mat activities
- Providing input in the development of the site safety plan in cooperation with Medical Team Manager and Safety Officers
- Determining Haz-Mat organizational and logistical needs

- Receiving briefings and situation reports and ensuring that all Haz-Mat personnel are kept informed of mission objectives and status changes
- Providing situation updates and maintaining records and reports
- Providing accountability, maintenance, and minor repairs for all issued equipment
- Possessing knowledge of the practical application of available (detection, PPE, and decontamination) technology used to support US&R missions and objectives

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Hazardous Materials Managers in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the Haz-Mat component in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Meet and maintain the requirements as a certified Hazardous Materials Technician as per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response
4. Meet and maintain the AHJ competencies in accordance with National Fire Protection Association standard 472 Standard for Professional Competence of Responders to Hazardous Materials Incidents to the level of Hazardous Materials Technician
5. Complete the FEMA WMD Considerations for Hazardous Materials Specialist course
6. Complete FEMA GPS Awareness Level course or equivalent
7. Complete all Technical Rescue Skill Sets.

Recommended Training:

1. Complete the Weapons of Mass Destruction Radiological/Nuclear for Hazardous Materials Technician (Course PER-241), U.S. Department of Energy National Security Administration Nevada Test Site.
2. Complete the WMD Hazardous Materials Technician Training (HT) Course (PER 261), Center for Domestic Preparedness.
3. Complete FEMA GPS Operations Level course or equivalent
4. Complete ICS 300 in accordance with the NIMS Training Program.
5. Complete NIMS IS-703 Resource Management course in accordance with the NIMS Training Program

FEMA HEAVY EQUIPMENT & RIGGING SPECIALIST

The Heavy Equipment and Rigging Specialist is responsible for performing various assessments and construction-related liaison for the task force during incident operations. The Heavy Equipment and Rigging Specialist reports directly to the Rescue Team Manager.

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Heavy Equipment & Rigging Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing competent assessments and advice to task force personnel in the urban disaster environment.

Description of Duties:

- Ensuring the safety of Task Force members by assessing hazards at disaster sites pertaining to the positioning and operations of cranes and other heavy equipment
- Assessing the need for and capabilities of several types of construction-related equipment to assist task force personnel in US&R activities
- Preparing site for and assisting with positioning and setup of cranes and other heavy equipment
- Identifying various rigging techniques to assist in the rescue of victims or stabilization of collapsed buildings, including the development of rigging plans and procedure
- Interacting with and coordinating efforts between the task force personnel and heavy equipment operators, contractors, and organized labor
- Adhering to all safety procedures
- Providing documentation to assist Task Force in procuring cranes and other heavy equipment, as well as maintaining daily logs
- Providing accountability, maintenance, and minor repairs for all issued equipment
- Performing additional tasks or duties as assigned

Required Training:

1. Complete all General Training requirements
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Complete the FEMA Heavy Equipment and Rigging Specialist course or equivalent

Additional Specific Requirements:

1. Experience in the heavy construction field, such as heavy equipment operator, crane operator, iron worker, rigger, or another applicable field

OR

2. A minimum of three years of experience as a Rescue Specialist on a Task Force

Recommended Training:

1. Complete all Technical Rescue Skill Sets as defined in general training requirements unless qualified as a Rescue Specialist
2. Complete FEMA Structural Collapse Technician training course or equivalent

FEMA LOGISTICS SPECIALIST

The Logistics Specialist is responsible for ensuring the preparation and maintenance of the task force equipment cache. The Logistics Specialist reports directly to the Logistics Team Manager.

Description of Duties:

- Coordinating the packaging, transporting, distribution, and maintenance of the Task Force equipment cache prior, during, and after mission assignments
- Coordinating with military and/or civilian officials for transportation needs
- Procuring equipment as directed by the Logistics Team Manager
- Ensuring accountability and security of the task force equipment cache
- Maintaining accurate and timely records and reports
- Adhering to all safety procedures
- Maintains and repairs the task force equipment cache
- Assist with over-all management of task force facilities and fleet
- Coordinate and direct Support Specialists (when staffed)
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Logistics Specialist in support of Resource's activities. The intent of these requirements is to select personnel capable of managing the logistics needs of the Task Force in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) http://www.training.fema.gov/EMIWeb/IS
3. Complete FEMA GPS Awareness Level course or equivalent

4. Complete the FEMA Logistics Specialist course, or equivalent
5. Complete OSHA 29 CFR 1910.178 (forklift training) course
6. Complete a DOT Hazardous Materials Handler/Packer/Labeler course as established by 49 CFR, Part 172.704

Recommended Training:

1. Complete Ordering Manager course (J-252)
2. Complete Receiving and Distribution Manager course (J-253)
3. Complete Base Camp Manager course (J-254)
4. Complete Equipment Manager course (J-255)
5. Complete Security Manager course (J-259)
6. Complete and maintain certification as a Certifying Official for Transportation Requirements and Regulations – Air and Ground
   a) IATA
   b) Title 49 CFR
   c) AFMAN 24-204

FEMA LOGISTICS MANAGER

The Logistics Team Manager is responsible for the logistics function of the Urban Search and Rescue Task Force and supervising the Task Force Logistics Specialist, Communications Specialist, Support Specialist, and other personnel as assigned. The Logistics Team Manager reports directly to the Task Force Leader.

Description of Duties:

- All duties and responsibilities of the Logistics Specialist
- Completion of all Task Force Transportation documents (cargo manifests, shipping declarations, bills of lading, etc.)
- Coordinating, managing, and supervising all logistical activities
- Maintaining accurate and timely records and reports
- Preparing performance evaluations for assigned personnel
- Ensuring accountability, maintenance, and repairs for all task force equipment
- Provide for operation and maintenance for all facilities and associated equipment
- Coordinate with IST Logistics Section on task force issues
- Management of task force transportation fleet
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Logistics Team Manager in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the logistical component in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Complete FEMA GPS Awareness Level course or equivalent
4. Complete the FEMA Logistics Specialist course or equivalent
5. Complete OSHA 29 CFR 1910.178 (forklift training) course
6. Complete a DOT Hazardous Materials Handler/Packer/Labeler course as established by 49 CFR, Part 172.704
6. Complete and maintain certification, as appropriate or required by the AHJ, as a Certifying Official for Transportation Requirements and Regulations – Air and Ground.
   a) IATA
   b) Title 49 CFR
   c) AFMAN 24 – 204

Recommended Training:

1. Complete Ordering Manager course (J-252)
2. Complete Receiving and Distribution Manager course (J-253)
3. Complete Base Camp Manager course (J-254)
4. Complete Equipment Manager course (J-255)
5. Complete Security Manager course (J-259)
6. Complete Facility Unit Leader (S-354)
7. Complete Ground Support Unit Leader (S-355)
8. Complete Supply Unit Leader (S-356)
9. Complete Food Unit Leader (S-357)
10. Complete Federal Property Custodial Officer
11. Complete NWCG All-Hazards Logistics Section Chief course or equivalent

FEMA MEDICAL SPECIALIST

The Medical Specialist is responsible for performing the medical function of the task force incident operation. The Medical Specialist reports directly to the Medical Team Manager

Description of Duties:

- The general health considerations of and delivery of medical care to all task force personnel, victims, and search dogs, while under the supervision of the Medical Team Manager, during disaster events
- Implementing the medical action plans specified by the Medical Team Manager
- Accountability, maintenance, and minor repairs for all issued equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Medical Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing medical care required by the task force in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS29T
3. Be currently certified / licensed as an EMT-Paramedic and have met all the requirements in their local jurisdiction. Must be actively participating in pre-hospital care.

   -OR-

   Be currently certified / licensed as a Physician Assistant, Registered Nurse-Practitioner or Registered Nurse who is currently certified / licensed as a Physician Assistant, Registered Nurse-Practitioner or Registered Nurse – certified within an accredited organization or municipality and meets the National Registry of Emergency Medical Technician – Paramedic Standards or State certification requirements and actively practices advanced pre-hospital life support. Must be certified and maintain the following, BTLS, ACLS, and PALS regimens (or equivalent).
4. Complete the FEMA Medical Team Training course or equivalent
5. Complete the FEMA WMD Considerations for The Medical Team course or equivalent
6. Complete the Technical Rescue Skill Sets.

Recommended Training:

1. Completed a canine emergency medical course

FEMA MEDICAL TEAM MANAGER

The Medical Team Manager has overall responsibility for the management and supervision of the medical function of the task force during incident operations. The Medical Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the medical component of the Task Force Tactical Action Plan
- Directly supervising the Medical Specialists
- Assisting in the development of the safety plan in coordination with the Task Force Safety Officer and Task Force Hazardous Materials Manager
- Coordinating, managing, and supervising of all medical activities

- Determining the medical organizational and logistics needs
- Receiving briefings and situation reports and ensuring that all medical personnel are kept informed of status changes
- Responsible for providing situation reports and maintaining records and reports
- Directing medical care delivery to task force personnel, search dogs, and victims
- Ensuring a continuum of medical care and coordinating interaction with all appropriate outside medical entities
- Ensuring accountability, maintenance, and minor repairs for all issued equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Medical Team Manager in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing, coordinating, and supervising the medical component in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS29T
3. Must be a licensed physician who is emergency medicine residency-trained and/or Board-certified in emergency medicine and actively practicing clinical emergency Medicine and having experience with pre-hospital medical care

   -OR-

   Must be currently licensed Physician with current ACLS, ATLS and PALS certification (or equivalent) whose medical activities include clinical medicine and or pre-hospital care
4. Complete the FEMA Medical Team Training course or equivalent

Recommended Training:

1. Complete the FEMA WMD considerations for The Medical Team course
2. Completed a canine emergency medicine course
3. Complete Technical Rescue Skill Sets.
4. Complete ICS-300 in accordance with the NIMS Training Program
5. Complete ICS- 400 in accordance with the NIMS Training Program

FEMA PLANNING TEAM MANAGER

The Task Force Planning Team Manager is responsible for planning aspects of the Task Force during incident operations. The Planning Team Manager supervises the Structures Specialist and Technical Information Specialist. The Planning Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the planning components of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all planning component activities
- Determining the planning component organizational and logistics needs
- Receiving briefings and situation reports and ensures that all planning personnel are kept informed of status changes
- Providing situation reports and maintaining records and reports
- Preparing performance evaluations for assigned personnel
- Providing accountability, maintenance, and minor repairs for all Planning Team equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Planning Team Manager in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the planning component in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS29T
3. Complete ICS-300 in accordance with the NIMS Training Program
4. Complete FEMA Planning Team Training course or equivalent

Recommended Training:

1. Complete FEMA US&R Task Force Leaders course or equivalent
2. Complete the NWCG All-Hazards Planning Section Chief course or equivalent
3. Complete Wide Area Search course
4. Complete Situation Unit Leader course
5. Complete Resource Unit Leader course
6. Complete Documentation Unit Leader course
7. Complete and Demobilization Unit Leader course.

FEMA RESCUE SPECIALIST

The Rescue Specialist is responsible for performing the rescue function of the Task Force incident operation. The Rescue Specialist reports directly to a Rescue Squad Officer.

Description of Duties:

- Implementing technical skills and operating equipment necessary for completing the rescue portion of the action plan
- Performing rescue operations under the direct supervision of a Rescue Squad Officer and providing periodic progress reports as needed
- The operation and routine field maintenance of rescue tools and equipment
- Ensuring accountability and maintenance for all issued equipment
- Evaluating and modifying rescue tactics as needed
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing the rescue tactics and techniques required in a disaster environment.

Required Training:

1. Complete all General Training requirements
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS29T
3. Complete FEMA GPS Awareness Level course, or equivalent
4. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue – Chapter 11
5. Complete the FEMA Structural Collapse Technician course or equivalent
6. Current Certification as a California Emergency Medical Technician or equivalent

FEMA RESCUE SQUAD OFFICER

The Rescue Squad Officer is responsible for supervising one or more Task Force Rescue Squad(s). The Rescue Squad Officer reports directly to the Rescue Team Manager.

Description of Duties:

- Directly supervising Rescue Squad(s) and other assigned personnel
- Implementing the rescue component of the Task Force Tactical Action Plan
- Determining organizational and logistical needs for the Rescue Squad(s) and work site
- Providing periodic progress reports to the Rescue Team Manager
- Maintaining records and reports
- Preparing performance evaluations for assigned personnel
- Ensuring accountability and maintenance for all issued equipment
- Evaluating and modifying rescue tactics as needed

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Squad Officer in support of Resource's activities. The intent of these requirements is to select functional officers capable of effectively managing and supervising the Rescue Squad(s) and assigned personnel in the urban disaster environment.

Required Training:

1. Complete all General Training requirements
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS31T
3. Complete FEMA GPS Awareness Level course or equivalent
4. Meet requirements of NFPA 1006 (2008) Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue – Chapter 11
5. Complete the FEMA Structural Collapse Technician course, or equivalent
6. Current Certification in Basic First aid for First Responder or equivalent
7. Shall have experience in structural collapse operations to include participation in field exercise(s) and/or a deployment as a Rescue Specialist

Recommended Training:

1. Complete the FEMA GPS Operations Level course
2. Complete ICS-300 in accordance with the National Standard Curriculum Training
3. Complete the FEMA Rescue Officers course

FEMA RESCUE TEAM MANAGER

Reports directly to the US&R Task Force Leader. Is responsible for managing US&R Rescue Operations and supervising assigned resources:

- Assisting in the development and implementation of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all functional groups involved in rescue activities
- Determining rescue organizational and logistical needs
- Receiving briefings and situation reports and ensuring that all rescue personnel are kept informed of mission objectives and status changes
- Providing situation updates and maintaining records and reports
- Preparing performance evaluations for assigned personnel
- Ensuring accountability and maintenance for all issued equipment
- Ensuring accountability of all assigned personnel
- Provide a mission specific Rapid Intervention Plan including personnel & equipment needs
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Rescue Team Manager in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising rescue operations in the urban disaster environment

Required Training:

1. Complete all General Training requirements
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Complete FEMA GPS Awareness Level course, or equivalent
4. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3)
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue – Chapter 11
5. Meets current Training Program Administration Manual.
6. Current Certification in California Emergency Medical Technician
7. Shall have experience in structural collapse operations to include participation in field exercises and/or a deployment as a Rescue Specialist

Recommended Training:

1. Complete ICS-400 in accordance with the NIMS Training Program
2. Complete FEMA Disaster Search Planning & Management Course
3. Complete FEMA GPS Operations Level course
4. Complete the FEMA Rescue Officers Course

FEMA SAFETY OFFICER

The Task Force Safety Officer is responsible for monitoring and assessing the safety aspects of the task force during training, exercises, and incident operations. The Task Force Safety Officer reports directly to the Task Force Leader.

Description of Duties:

- Overseeing all health and safety of all task force personnel during day-to-day operations, training, and exercises as well as on deployment
- Coordinating with task force Team Managers relative to the health, welfare, and safe operations of their assigned personnel
- Preventing injuries and illness of task force members through appropriate administrative and engineering controls of hazards including enforcement of safety policies and procedures
- Conduct site safety analysis, complete required ICS documents for IAP/TAP, develop safety messages and conduct safety briefings
- Work with Task Force Team Managers to establish acceptable entry conditions and appropriate personal protective equipment to be worn by personnel entering the hazard zone
- Establish and enforce the use of a personnel accountability system to be used during training, exercises, and actual disaster deployments
- Immediate intervention of activities to prevent the loss of life and prevention of injuries
- Conduct incident/accident investigations with appropriate task force personnel under the direction of the Task Force Leader. Prepare post incident injury reports and submit them to the Task Force Leader
- Preparing and maintaining entry permits, records, and reports
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a (Task Force) Safety Officer in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising the safety function in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete IS-33.XX FEMA Ethics Orientation annually ("XX" represents the current calendar year version) www.training.fema.gov/EMIWeb/IS
3. Complete FEMA GPS Awareness Level course, or equivalent
4. Complete ICS-300 in accordance with the NIMS Training Program
5. Complete FEMA US&R Safety Officer course, or equivalent
6. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter Administration: Section 1.3.3):
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue – Chapter - 11
7. Complete the FEMA Structural Collapse Technician course or equivalent.
8. Current Certification in Basic First aid for First Responder or equivalent

FEMA SEARCH TEAM MANAGER

The Search Team Manager is responsible for managing the search function of the task force or the search element during a US&R or technical rescue incident. The Search Team Manager supervises the Technical Search Specialists assigned and may supervise the Canine Search Specialists. The Search Team Manager reports directly to the Task Force Leader.

Description of Duties:

- Developing and implementing the search component of the Task Force Tactical Action Plan
- Coordinating, managing, and supervising all search and reconnaissance activities
- Participating in the oversight, administrative and operational control of the development, implementation, and operational aspects of search component training (Canine Search Specialists, Technical Search Specialists and Search Managers)
- Participating in the Canine Search Specialist evaluation process at the task force level
- Providing research and development input at the task force level for the implementation and evaluation of modern technologies, equipment, tactics, and skills as they pertain to the search component
- Land navigation and site mapping
- Determining search and reconnaissance operational, organizational, and logistical needs
- Ensuring that all assigned personnel are kept informed of mission objectives and status changes to include briefings and debriefings

- Preparing performance evaluations for assigned personnel
- Provides situation updates, documents, and maintains records and reports
- Providing oversight for accountability, maintenance, and minor repairs for all issued/assigned equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Search Manager in support of Resource's activities. The intent of these requirements is to select functional managers, capable of effectively managing and supervising the search component, in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete the FEMA Technical Search Specialist course, or equivalent
3. Complete the FEMA Canine Search Specialist course, or equivalent
4. Shall have experience in technical or canine search operations to include but not limited to participation in field exercise(s) and SAR deployments or equivalent qualification as determined by the SA/AHJ

Recommended Training:

1. Complete the FEMA Structural Collapse Technician course, or equivalent
2. Complete the FEMA Task Force Leaders' course
3. Complete the FEMA Planning Team Training course
4. Complete the FEMA GPS/Land Navigation Technician Course
5. Complete a canine emergency field care course
6. Meet requirements of NFPA 1006 Rescue Technician Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue Level 1 & 2– Chapter 11
7. Complete ICS-300
8. Complete all Technical Rescue Skill Sets.

FEMA STRUCTURES SPECIALIST (StS)

The Structures Specialist is responsible for performing the various structural assessments for the task force during incident operations. The Structures Specialist reports directly to the Planning Team Manager.

Description of Duties:

- Assessing the structural condition within the area of task force operations, which includes identifying structure types and specific damage and structural hazards
- Recommending the appropriate type and amount of structural hazard mitigation to minimize risks to task force personnel
- Provide input necessary to the development of task force tactical action plans
- Cooperating with and assisting other search and rescue resources
- Providing accountability, maintenance, and minor repairs for all issued equipment
- Performing additional tasks or duties as assigned during a mission
- Monitoring assigned structure for condition changes while rescue and recovery operations are proceeding
- Assuming an active role in implementing approved structural hazard mitigation as a designer, inspector, and possibly a supervisor
- Coordinating and communicating the structural related hazard mitigation
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Structures Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing competent assessments and advice to task force personnel in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete FEMA GPS Awareness Level course, or equivalent
3. Complete the FEMA USACE Structures Specialist Training (StS-1) course
4. Complete all Technical Rescue Skill Sets

Additional Specific Requirements:

1. Be currently licensed as a Professional Engineer; specialization in structures or equivalent as sanctioned by the FEMA US&R Structures Sub-Group

– and –

2. Have a minimum of 5 years of experience in structure design and analysis to include evaluation of existing structures, field investigation or construction observation experience

The criteria for qualifying as Equivalent to a P.E. are as follows:

- Graduation with B.S. in Civil Engineering (or similar curriculum) from a College or University recognized by a State Licensing Board
- Five years of experience in any phase of Structural Engineering including the teaching of subjects pertaining to Structures, Structural Safety and Structural Collapse

- Individuals, who are licensed as Architects by any State may be considered as having equivalent certification, based on their qualifications and the above

Recommended Training:

1. Complete FEMA Structural Collapse Technician course (except for SCT01c), or equivalent
2. Complete FEMA Planning Team Training course, or equivalent
3. Completion of FEMA /USACE Structures Specialist Training (StS-2) every 5 Years.
4. Completion of USACE StS Regional Training every 2 years

FEMA US&R TASK FORCE LEADER

The US&R Task Force Leader is responsible for managing all aspects of a mission including operational and administrative issues from the time of activation through the return to the home jurisdiction. This includes all personnel and equipment resources as well as overseeing and directly supervising the task force management. The TFL is responsible for the development and completion of all task force tactical objectives as well as the proper reporting, record keeping, and after-action requirements. The TFL reports directly to:

- Incident Commander
- The Incident Support Team (IST) Leader at a mission location.
- Operation Chief / Division Group Supervisor

Description of Duties:

- Developing and implementing the Task Force Tactical Plan
- Addressing the management, and supervision of all task force activities
- Ensuring the development of all task force organizational and logistical needs
- Interacting with the IST Leader and his/her designee for coordination of all task force activities and support requirements
- Receiving briefings and ensuring that all task force personnel are kept informed of mission objectives and status changes
- Providing regular situation reports to the IST
- Performing additional tasks and duties, as assigned during a mission
- Adhering to all safety procedures
- Ensuring the completion of all the required reports and maintenance of records
- Ensuring incident stress management activities are planned and conducted
- Ensuring resource acquisitions are properly processed
- Preparing performance evaluations ICS #226 for assigned personnel
- Manage all demobilization and return to readiness issues

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Task Force Leader in support of Resource's activities. The intent of these requirements is to select functional managers capable of effectively managing and supervising all aspect of the task force in the urban disaster environment.

The requirements and criteria for the Task Force Leader are as follows:

- A comprehensive knowledge of NIMS/ICS; the NRP; the California US&R Response Plan, and the FEMA , the organizational structure, operating procedures, safety practices, terminology, and communications protocols of both State & Federal systems.
- A comprehensive knowledge of the Task Force functions, and urban search and rescue operations, tactics, strategy, and safety considerations
- An understanding of other disaster response organizations
- Knowledge of available technology used in support of US&R missions and objectives
- An awareness of the hazards associated with various disaster environments
- A knowledge of supervisory and personnel management techniques

The TFL should:

- Be competent in the development and use of integrated action planning concepts and processes
- Be competent in emergency incident management
- Be competent at developing and maintaining interpersonal relations
- Possess the interpersonal skills to manage the assigned personnel and lead the task force to the accomplishment of the stated mission objectives
- Be a competent planner and organizer
- Be capable of effectively coordinating and directing multiple functions of the Task Force during mission assignment
- Be able to be flexible, to improvise, to share information, resolve conflicts, and solve problems
- Be able to effectively communicate orally and in writing
- Possess good interagency coordination skills and work well with various technical components and other organizations
- Can lead in a stressful disaster environment with limited resources
- Can follow directions and carry out duties without supervision

Required Training:

1. Complete all General Training requirements.
2. Complete ICS-300 and ICS-400 in accordance with NIMS
3. Meet current FEMA Task Force Leaders' course, or equivalent

FEMA TECHNICAL INFORMATION SPECIALIST

The Technical Information Specialist is responsible for documenting, tracking, and retrieving all pertinent information for the Task Force during incident operations. The Technical Information Specialist reports directly to the Planning Team Manager or appropriate supervisor.

Description of Duties:

- Gathering requested information from all available sources and forwarding to the
- Planning Team Manager for incorporation in the planning function
- Creating, displaying, providing, and compiling documentation for all pertinent Task Force and incident information via written, audio, and visual mediums
- Providing accountability, maintenance, and minor repairs for all Planning Team equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Technical Information Specialist in support of Resource's activities. The intent of these requirements is to select personnel fully capable of providing competent information management for the task force in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete the FEMA Planning Team Training course, or equivalent

Recommended Training:

1. Complete ICS-300 in accordance with the NIMS Training Plan

FEMA TECHNICAL SEARCH SPECIALIST

The Technical Search Specialist is responsible for performing the technical search function of the incident. The Technical Search Specialist reports directly to the Search Manager. The Technical Search Specialist may operate as a single resource or as assigned to a single resource, as appropriate.

Description of Duties:

- Searching structures in US&R environments or other locations indicated in the mission assignment, utilizing appropriate technical search equipment and techniques
- Documenting and marking locations of victims, potential victims, and hazards
- Making assessments using technical search equipment
- Land navigation and site mapping
- Cooperating with and assisting other search and rescue resources

- Providing accountability, maintenance, and minor repairs of all issued equipment
- Performing additional tasks or duties as assigned

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to deploy as a Technical Search Specialist in support of Resource's activities. The intent of these requirements is to select competent personnel, fully capable of providing state-of-the-art search techniques and tactics required, in the urban disaster environment.

Required Training:

1. Complete all General Training requirements.
2. Complete the FEMA Technical Search Specialist course, or equivalent
3. Complete all Technical Rescue Skill Sets
4. Complete the FEMA Structural Collapse Technician course or FEMA approved equivalent

Recommended Training:

1. Complete a FEMA Canine Search Specialist course, or equivalent
2. Complete the FEMA Search Planning & Management course
3. Complete a canine emergency field care course
4. Meet requirements of NFPA 1006 Technical Rescuer Level 1 & 2 (Excluding Chapter 1 Administration: Section 1.3.3):
   a) Job Performance Requirements – Chapter 5
   b) Rope Rescue Level 1 & 2 – Chapter 6
   c) Confined Space Rescue Level 1 & 2 – Chapter 7
   d) Trench Rescue Level 1 & 2– Chapter 8
   e) Vehicle and Machinery Rescue – Chapter 10
   f) Surface Water Rescue Level 1 & 2– Chapter 11

FEMA WATER RESCUE SPECIALIST

The Water Rescue Specialist is responsible for performing water operations of the task force incident operation. The Water Rescue Specialist reports directly to a Rescue Squad Officer.

Description of Duties:

- Implementing technical skills and operating equipment necessary for completing the water rescue portion of the action plan in a safe manner
- Performing supervised water operations and providing periodic progress reports as needed
- Operating and performing routine field maintenance of watercraft and equipment
- Ensuring accountability and maintenance for all issued equipment
- Performing additional tasks or duties as assigned
- Evaluating and modifying water operational tactics as needed

Position Requirements and Criteria:

Individuals who meet the following requirements and criteria will be eligible to become Water Rescue Specialists in the National US&R Response System. The intent of these requirements is to select personnel who are fully capable of providing the water operational tactics and techniques required in a disaster environment.

Required Training:

- Complete all administrative and general training requirements
- Complete the FEMA GPS / Land Navigation Operations Course, or equivalent.
- Chapter 5: Job Performance Requirements
- Chapter 6: Rope Rescue (Levels 1 & 2)
- Chapter 11: Surface Water Rescue (Levels 1 & 2)
- Safe boating certificate recognized by the National Safe Boating Council
- Boat operator requirements as outlined in FEMA National US&R
- Response System Water Rescue Specialist Position Task Book, or equivalent.

Chapter 5: Single Resource Mission Essentials and Mission Ready Packages

Single Resources

A Single Resource is defined as an individual, a piece of equipment and its personnel complement, or a crew or team of individuals with an identified work supervisor. A single Resource may be assigned to a geographical area in which an individual or supervisor of a single resource is assigned authority and responsibility for the coordination of a task assignment or unit assignment and implementation of planned tactics. The assignment of single resource(s) may be in support of other resources, a task force or a portion of a Division or an area inside or outside the perimeter of an incident.

Mission Ready Packages

While historically the term “modular deployment” has been used to describe the mobilization and grouping of specialized, single resources or discipline specific resources, the term “Mission Ready Packages” is more consistent with NIMS descriptive terminology. The use of MRPs also brings the System in line with Emergency Management Assistance Compact (EMAC) terminology. EMAC has developed a pre-deployment outline to assist agencies to facilitate a faster state to state mutual aid response.

MRPs are defined as “specific response and recovery resource capabilities that are organized, developed, trained, and exercised prior to an emergency or disaster”. These MRPs are designed to provide additional support and/or to augment a needed capability to resources already operating at an incident or event.

For State and local government’s urban search and rescue programs with robust capabilities, MRPs may also be deployed to provide specific mission capabilities to a requesting agency in support of the Authority Having Jurisdiction (AHJ).

MRPs are intended to support both internal (California) and external (Federal or EMAC) requests for assistance. They are designed for rapid deployment and can be requested, located within the System, ordered, and tracked effectively during an emergency, when time is of the essence. While it is preferred that all members of each MRP be from the same agency, it is not required.

All California Mission Ready Package activities are coordinated through the State Office of Emergency Services (OES), who serves as the primary point of contact for

FEMA/DHS and States requesting assistance thru the Emergency Management Assistance Compaq (EMAC).

Agency Requirements- The Agency(s) providing a MRP must ensure each deployed member meets all the requirements for being fully deployable. Each member must be furnished with all personal protective equipment necessary to perform in the environment expected.

Deployment- Cal OES will maintain a list of MRPs which are available. The appropriate MRP will be selected by the OES based on the requested capability, location of the request, and availability. When an MRP is requested Cal OES will contact the task force(s) from which the MRP will be deployed.

Mobilization- The task force(s) providing the MRP should have a specific mobilization plan in place for the MRP. This plan should describe the actions that must occur from receipt of an alert or activation order until the MRP has reached the designated reporting location. Detailed planning is required to ensure that the MRP can meet the four-hour time frame for departure by ground transportation or the six-hour time frame for an Aerial Port of Embarkation (APOE), as appropriate.

Media management procedures must be identified during the initial briefing. All MRP personnel must clearly understand appropriate procedures when interacting with different forms of media. The local Public Information Officer (PIO) is responsible for the release of information regarding the incident.

Work Period Scheduling and Rotations-The IST or AHJ Command will need to determine how MRPs will be deployed at the onset of mission operations. MRPs are designed to engage in single operational periods typically not exceeding 12-hours. If 24-hour operations are desired MRPs may need to be modified or additional MRPs may be required.

Health and Medical Considerations-The MRP Leader will maintain communications with the IST Medical Officer or local Medical Unit Leader and keep that individual updated on medical issues. The need for additional medical assistance for civilian injuries will be directed through the IST to local authorities if available.

Transportation Requirements- Transportation assets required to move the MRP should be identified prior to deployment. If the Sponsoring Agency does not have the necessary vehicles in- house, then contracts with local vendors should be in place to provide transportation to the incident location, designated staging location, or APOE.

Enough trucks and trailers should be available to transport the MRP equipment and all personal gear.

If responding by ground, the deploying task force(s) should provide the MRP with the vehicles needed to transport the required personnel and equipment for the mission. The exact type of vehicle may be determined by the deploying task force(s). If air transportation is utilized, vehicle and supplies must be provided by the requesting IST or AHJ.

Support Requirements- If deployed by land, MRPs will be self-sustaining with food and water for 72 hours of continuous operation. This self-sustainment will also include fuel for fuel-powered equipment but does not include fuel for vehicles.
If deployed by air, MRPs will be self-sustaining with food and water for 72- hours of continuous operation. Fuel for fuel-powered equipment shall be provided by the requesting AHJ.

Canine Health and Welfare- All canines must be in good health and have a current health certificate from a licensed veterinarian to deploy. For canines to ride un-caged in a military aircraft, their handlers must have a waiver letter, available from the Air Force, stating so. One copy of this letter should be carried with the canine handler, and another copy should be provided to the MRP Leader. The letter must be available on short notice at the APOE prior to aircraft loading

California Urban Search & Rescue Single Resource Types

Always use the prefix US&R for Urban Search and Rescue (US&R) resources.
Order Single Resource or Strike Team by Type (Capability – Type 1, Type 2, Type 3, OR Type 4)

Type 1 (Heavy)	Type 2 (Medium)	Type 3 (Light)	Type 4 (Basic)
Heavy Floor Construction Pre-cast Concrete Construction Steel Frame Construction High Angle Rope Rescue (including highline systems) Confined Space Rescue (permit required) Mass Transportation Rescue Mud and Debris Flow Rescue Organizations typed and operating at the Type-1 level shall meet technician level for structural collapse, rope rescue, confined space, trench and excavation, vehicle, and machinery search and rescue.	Heavy Wall Construction High Angle Rope Rescue (not including highline systems) Confined Space Rescue (no permit required) Trench and Excavation Rescue Organizations typed and operating at the US&R Type-2 level shall meet the awareness level for surface water search and rescue, the operations level for rope rescue, confined space, trench and excavation, vehicle and machinery search and rescue, and the technician level for structural collapse.	Light Frame Construction Low Angle Rope Rescue Single-Person Load Rope Rescue Organizations typed and operating at the US&R Type-3 level shall meet the operations level for structural collapse and rope rescue.	Surface Rescue Non-Structural Entrapment in Non-Collapsed Structures Organizations typed and operating at the US&R Type-4 level shall meet the awareness level for structural collapse incidents.

RESOURCE	RADIO ID's	COMPONENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4
US&R Company	Agency Identifier US&R (phonetic) Number Identifier *VNC US&R 54*	Equipment Staffing Transportation	Type 1 Inventory 6 Personnel Agency Specific	Type 2 Inventory 6 Personnel Agency Specific	Type 3 Inventory 3 Personnel Agency Specific	Type 4 Inventory 3 Personnel Agency Specific
US&R Crew**	Agency Identifier US&R (phonetic) Number Identifier *KRN US&R Crew 2*	Trained Personnel Supervisor Transportation	5 1 Agency Specific	5 1 Agency Specific	2 1 Agency Specific	2 1 Agency Specific

*Requests should include vehicle capabilities when necessary (i.e., four-wheel drive, off-road truck, etc.)

**The agency/department sending the US&R Crew will identify the Supervisor.

California Urban Search & Rescue Task Force Types

RESOURCE	RADIO IDENTIFIER	ELEMENT	PERSONNEL
CA-Regional US&R Task Force	OES Identifier Type of resource Task Force Number	Trained Personnel	30
		Supervision	1-Task Force Leader, 1- Planning Team Manager, 1- Search Team Manager, 1- Rescue Team Manager, 2 Squad Officer
California Regional Task Force	*FRN US&R RTF-5*	Transportation	Agency Specific: Total max 10 of vehicles, up to 2- Type 1 US&R Units (Heavy) up to 2- Engines (Type 1 or 3)
	"RTF-5"		

RESOURCE	RADIO IDENTIFIER	ELEMENT	TYPE 1	TYPE 2	TYPE 3	TYPE 4
CA-FEMA US&R Task Force	State ID Task Force Number	Trained Personnel	70	70	35	22
		Supervision	2-TF Leader 2-Search Team Manager 2-Rescue Team Manager 2-Med Team Manager 2-HM Team Managers 2-Logs Team Manager 2-Planning Team Manager 4-Squad Officer	2-TF Leader 2-Search Team Manager 2-Rescue Team Manager 2-Med Team Manager 2-HM Team Manager 2-Logs Team Manager 2-Planning Team Manager 4-Squad Officer	1-TF Leader 1-Search Team Manager 1-Rescue Team Manager 1-Med Team Manager 1-HM Team Manager 1-Logs Team Manager 1-Planning Team Manager 2-Squad Officer	1-TF Leader 2-Squad Officer
California FEMA US&R Task Force	*CA-TF4*					
		Transportation	Agency Specific	Agency Specific	Agency Specific	Agency Specific

California US&R Strike Team Resource Standard

Kind	Strike Team Types	Number/ Type	Minimum Task Capabilities	Per Single Resource	Total Personnel
US&R	GR	2 – Type 1 (Heavy)	Trained for Heavy Floor Construction, Pre-cast Concrete Construction, Steel Frame Construction, High Angle Rope Rescue (including highline systems), Confined Space Rescue (permit required), and Mass Transportation Rescue	6	13 (Incl. 1-Leader)
US&R	HR	2 – Type 2 (Medium)	Trained for Heavy Wall Construction, High Angle Rope Rescue (not including highline systems), and Trench and Excavation Rescue	6	13 (Incl. 1-Leader)
US&R	IR	5 – Type 3 (Light)	Trained for Light Frame Construction and Low Angle Rope Rescue	3	16 (Incl. 1-Leader)
US&R	JR	5 – Type 4 (Basic)	Trained for Surface Rescue and Non-Structural Entrapment in Non-Collapsed Structures	3	16 (Incl. 1-Leader)

R- Urban Search & Rescue Resource

MRP RESOURCES

See Appendix B – Mission Ready Packages Description

Chapter 6: Rapid Extraction Modules

This chapter was developed with the intent to provide a clear description of the role, duties, and equipment pertinent to the position of the Rapid Extraction Module Support (REMS). The REMS is a pre-staged rescue team assigned to a wildland fire to provide firefighters a safe, effective, and efficient method of egress off the fireline in the event of injury or illness incurred during firefighting operations.

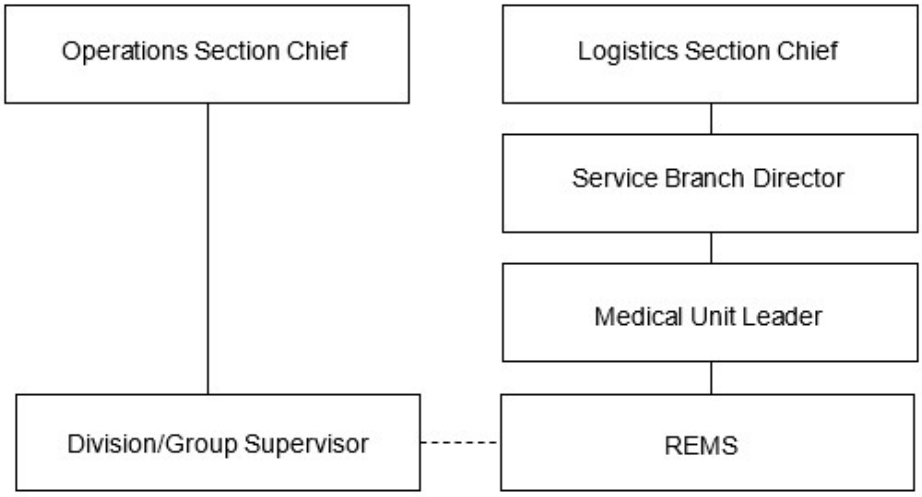
Wildland firefighting is an inherently dangerous profession. While safety is the primary concern during all operations, unintended incidents do occur which result in injury or illness to firefighters. It is the intent of the REMS to provide firefighters, who are unable to egress under their own power, a safe and secure transport off the fireline while simultaneously receiving the appropriate medical attention.

While REMS do not intend to replace ground or air transport, ideal conditions may not exist due to several circumstances such as heavy smoke inversion, no roads, or equipment malfunctions. REMS provides incident managers another option to reach incapacitated firefighters, with fully equipped resources, prepared to package and transport injured or ill personnel off the fireline to the appropriate medical care unit. While this position manual recommends minimum staffing levels of the REMS, it is not intended to exclude the potential need to augment staffing levels based on the complexity of the
rescue.

Organization

Upon arrival on an incident, REMS initially reports to the Medical Unit Leader (MEDL). Once assigned to a Division, Group, or Branch the REMS will work under the direction of an assigned Fireline Supervisor. REMS personnel may remain mobile or may have to hike into the intended location with litter basket and equipment. Once with the patient, REMS personnel should get a report on the patient's condition, the environment, available resources and implement an effective plan of egress to definitive medical care. Once the patient has been properly packaged, the extrication plan will be placed into effect. Based on environmental factors, the patient as a package can be extracted by walking over various terrain features or trails or a rope system can be assembled to raise or lower the litter basket to an identified location.

The REMS is assigned as illustrated below:



Staffing and Equipment

Minimum staffing consists of four (4) qualified technical specialists, one of which shall be Single Resource Boss qualified. The REMS personnel shall meet the requisite qualifications as outlined in the Training and Experience Requirements section below. The entire four-person module should maintain unity and not be split to accomplish separate missions. When ordered, the REMS will come with all equipment identified in the Standard Equipment List (SEL).

Major Responsibilities and Procedures

The major responsibilities of the REMS are stated below.

1. Check in and obtain briefing from the Logistics Section Chief or the Medical Unit Leader, if established. The briefing should provide the following:
   a. Current incident situation
   b. Review the Medical Plan (ICS Form 206) and “Incident within an Incident” Plan
   c. Incident communications channels
2. Anticipate needs and ensure equipment needs as necessary:
   a. Incident base assignments
   b. Fireline assignments
   c. Spike camp assignments
3. Resupply expended materials when necessary.
4. Secure operations and demobilize as outlined in the Demobilization Checkout (ICS Form 221).
5. Maintain a Unit/Activity Log (ICS Form 214).

California Regional US&R Task Force

The California Regional US&R Task Force is a multi-disciplinary US&R resource

configured to specifically address speed of response and address immediate rescue needs of an incident. The California Regional Task Force is comprised of 30 personnel specially trained and equipped for large or complex US&R operations.

The California Regional US&R Task Force configuration is considered an immediate need resource and is designed to be used in the initial stages of an incident. The multi-disciplinary organization provides six functional elements that include Supervision, Search, Rescue, Medical, Planning and Logistics. The California Regional US&R Task Force is totally self-sufficient for the first 24 hours and organized for 12-hour operational periods. Transportation is provided by the sponsoring agency and logistical support will normally be provided by the requesting agency.

The California Regional US&R Task Force includes Technical Search capabilities, Hazardous Materials, Medical (ALS) and Rescue personnel. The California Regional US&R Task Force Rescue element includes a Type 1 US&R Company (personnel and equipment), a Type 1 US&R Crew (personnel), and a Heavy Equipment and Rigging Specialist.

This Task Force configuration can conduct search and rescue operations in all types of environments (excluding water environments). The Task Force Medical element is responsible for the care and treatment of injured task force members or victims if such care must occur in the hazard area. The Medical element will work within the incident's Medical Unit or directly assigned to support to Task Force as appropriate. The Planning element works within the Task Force and coordinates with the incident's Plans section. The Logistics element works within the Task Force for tool and equipment repair and maintenance and will coordinate with the incident's Logistics Section for acquisition of tools and equipment from off-incident locations.

Chapter 7: Construction Types

Training and Experience Requirements

- Rope Rescue Operations (RRO) or equivalent– all
- High Angle Rope Rescue Operations or equivalent – 2 team members
- Leader – Single Resource Boss Qualified
- Team Members - Firefighter 1 or 2 Wildland Fireline qualified
- Arduous physical fitness level

See FIRESCOPE ICS 223, *Rapid Extrication Module Support (REMS) Incident Command System Position Manual* for current directive.

Considerations

- Terrain will likely be very steep and unstable in areas where REMS use is applicable.
- In many cases walking a patient out of an area with the litter basket and wheel combination may not be possible due to terrain features.
- Rope systems may be employed to ensure that a victim and the REMS team can safely transition from the incident location to the medical evacuation site.
- Long lowering and hauling distances may be encountered in REMS operations. This may require the patient to be moved in multiple pitches, or rope lengths. As a result, anchors may also be required to secure the patient while the system is moved and reset.
- Anchor systems should be kept as simple as possible due to the multiple, and progressive anchor systems required and the urgent need to reach definitive medical care.
- Hand Crews may deploy in front of the litter basket to clear the trail and identify hazards.
- A Rigger in front of the system pre-setting anchors saves valuable time.
- A REMS standard equipment cache should be assembled and stored prior to an incident so it is readily available at the time an Incident Management Team decides to implement REMS at an incident.
- Utilization of the raising/lowering system may be beneficial during the hike into a patient as well as during an extraction.

Chapter 8: US&R Task Force Concept of Operations

California FEMA US&R Task Forces

California FEMA US&R Task Forces deploy in four types of nationally recognized (NIMS) configurations. The NIMS configurations include personnel position identification, position descriptions, training requirements as listed in Chapter 5 of this standard. The Federal Government, through the Federal Emergency Management Agency (FEMA), under the Department of Homeland Security (DHS), has established 28 Urban Search & Rescue (US&R) Task Forces throughout the nation, eight of which are in California. All California FEMA US&R Task Force activities are coordinated through the State Office of Emergency Services (OES), who serves as the primary point of contact for FEMA/DHS.

US&R Task Forces located in California are available as a state resource that can be acquired without a request for Federal assistance. All requests for US&R Task Forces must go through normal Mutual-Aid request procedures. A full, 70-person, Type I & 2, US&R Task Force can deploy within four to six hours of activation.

Each US&R Task Force is comprised of specifically trained and equipped personnel for large or complex urban search and rescue operations. The multidisciplinary organization can provide up to seven functional elements that include Supervision, Search, Rescue, Hazardous materials, Medical, Logistics and Planning. The US&R Task Force is totally self-sufficient for the first 72 hours and has a full equipment cache to support its operation. Either State or Federal resources provide transportation and logistical support.

Depending on the request, a Type 1 and 2 Task Force is comprised of 70 personnel with staffing for all seven functional elements that include Supervision, Search, Rescue, Haz-Mat, Medical, Logistical and Planning. Depending on mode of transportation, 10 additional personnel may deploy to assist with movement of personnel and equipment.

Type 3 Task Force configurations are comprised of 35 personnel, plus up to 5 ground support personnel, with staffing for all seven functional elements. The Type 3 configuration is focused on structural collapse as its core capability. The Type 3 Task Force deploys with sufficient Hazardous materials and Personal Protective Equipment for personnel to complete the structural collapse core capability mission. Type 3 Task Forces may deploy with a water capability (see National US&R Response System Operations Manual: Annex C – Water Operations Concept of Operations).

Type 4 Task Forces consists of 22 personnel, plus up to 3 ground support personnel. The Type 4 Task Force focus is on structural collapse core capability. Type 4 task forces are made up of two or more Rescue Squad personnel trained in wide area and technical search skills. Single resources may be added as needed with approval of requesting authority (i.e., Structures Specialists, Canine Search Teams, Heavy Equip. Rigging Specialists, etc.) The Type 4 Task Force does not typically deploy with a US&R operations in a water environment capability.

Minimum Equipment Lists for NIMS Type 1, 2, 3 and 4 can be found in Appendix D.

Five General Construction Categories

Identifying the general construction category of a structure that has experienced a collapse or failure will help determine the appropriate US&R operational capability required to mitigate the incident. The five general construction categories the rescuer will most likely encounter in collapse or failure situations are light frame, heavy wall, heavy floor, pre-cast concrete, and steel frame. Several common structures are built utilizing a combination of these general construction categories such as light frame multi-unit residential structures built on top of a one or more-story concrete parking garage, reinforced with steel reinforcing bars (rebar) or post-tensioned cables and steel frame buildings constructed on top of concrete commercial and/or parking structures.

Light Frame Construction (Wood and Light Metal Stud)

Structures in this general construction category are typically built with a vertical load resisting system of closely spaced wood or light gauge metal studs for bearing walls and joists for floors and rafters for roof. The lateral resistance is provided by wall and floor sheathing, which enables these “Box Type” structures to remain square and plumb providing a high degree of structural flexibility to applied lateral forces from earthquakes and high winds.

These buildings are configured as follows:

Roofs	Wood or metal rafters or trusses spaced 16” to 32”o.c. Sheathing may be spaced, solid boards laid straight or diagonally, or plywood.
Floors:	Wood or metal joists or flat trusses spaced 12” to 24”o.c. Sheathing may be wood boards laid straight or diagonally or plywood. Floors of newer construction may have 1” or 2” concrete topping over plywood sheathing.
Exterior Walls	Wood or metal studs spaced 16” to 24”o.c. Sheathing may consist of wood boards laid straight or diagonally or plywood. For smaller and older buildings, lath and plaster, or gypsum board is used for sheathing.
Interior Columns and Walls:	Most have walls with wood or metal studs spaced 16” to 24”o.c. that are sheathed with any of the types listed for exterior walls. Wood lath and gypsum plaster were used in older wood buildings. Larger buildings of this type may include column and beam framing in addition to the stud-bearing walls.
Number of Stories:	Up to 4 stories for wood stud multi-unit residential buildings Up to 6 stories for metal stud multi-unit residential and mixed-use buildings
Occupancy Types:	Types may include single family and multi-unit residential buildings, low-rise commercial, institutional, and light industrial.

Heavy Wall Construction (Exterior walls of Reinforced Masonry (RM), Unreinforced Masonry (URM), and Tilt-up Concrete (TU)

Structures in this general construction category are “Box Type” structures typically built with heavy, fire-resistant exterior walls and lightweight wood floors and roof. The exterior walls are constructed of Reinforced Masonry (RM), Unreinforced Masonry (URM), or Tilt-up Concrete (TU). The adequacy of the interconnection of the walls and floors plus roof usually determines how well these structures resist the effects of earthquake forces and high winds. State law in California requires URM structures be strengthened to reduce the collapse potential of these vulnerable walls in major earthquakes.

These buildings are configured as follows:

Roofs	**URM** roofs usually have wood rafters or nailed wood trusses made from 2x and 1x members that are sheathed with straight 1x wood sheathing. Bowstring (curved top with flat bottom) and other trusses are the main roof supports, with 2x joists and 1x straight sheathing. A **Tilt-Up** is usually built with a panelized system with long-span, glued laminated (glulam) wood beams, 4x purlins, 2x sub-purlins, and plywood sheathing or other lightweight roof systems.
Floors:	**URM** floors usually have 2x or 3x wood joists with straight 1x wood sheathing. **Tilt-Up** floors are usually built using large wood joists or flat wood trusses with plywood sheathing.
Exterior Walls	**URM** exterior walls usually have 9” thick parapet walls with 4” added to the thickness for each story. A typical two-story URM building will have 13” thick walls and a 9” thick parapet wall. **Tilt-Up** walls are reinforced concrete, 6” or greater in thickness. They are cast flat onsite in approximately 24’ widths and tilted into position.
Interior Columns and Walls:	**URM** may have wood stud walls. Large wood columns and beams may also be used. There may or may not be a uniform grid layout. **Tilt-Up** walls usually have steel pipe/tube columns spaced in a 24’ on center by 50’ or similar spacing. They typically have a uniform structural grid. Buildings with long-span trusses may have no interior columns.
Number of Stories:	**URM** construction is up to eight stories high, but most are two stories or less **Tilt-Ups** are mostly one story, up to 24’ high. Some may be two or three story with up to 40’ high walls.
Occupancy Types:	**URM** may include occupancies such as Tilt-Ups, multi-family residential, and institutional structures. **Tilt-Ups** may include office, commercial, educational (gymnasiums), or industrial and warehouse buildings.

Heavy Floor Construction (Cast-in-Place Concrete)

Structures in this general construction category are typically built utilizing Cast-in-Place Concrete (CIP) construction consisting of heavy, concrete floors. Steel reinforcing bars (rebar) provide the tension resistance within each concrete member, but post-tensioned steel cables may also be employed. These structures may be built utilizing concrete beam/column frame to provide “Moment Frame” resistance or concrete shear walls to provide “Box Type” resistance to earthquake forces and high winds.

These buildings are configured as follows:

Roof and Floors:	Concrete slabs with beams, concrete joists with girders, and waffle or two-way flat slab assemblies
Exterior Columns and Walls:	Concrete “Moment Frame” structures use reinforced concrete columns as the primary exterior supports. The spaces between columns are enclosed with infill or panel walls of glass in metal frames, metal studs and plaster, brick, brick or stone veneer on metal studs, or pre-cast concrete panels. Combinations of these materials may also be used. In older and non-west coast buildings, infill walls may be constructed using very brittle materials such as URM and hollow clay tile. These structures are very vulnerable to earthquake damage. “Box Type” structures may have some concrete columns with infill walls as with concrete framed structures, but reinforced concrete, shear walls are used for the main exterior walls.
Interior Columns and Walls:	Both concrete framed and Box Types may have a grid of concrete columns. Interior spaces are divided using non-structural walls constructed of metal studs and gypsum board, or URM. Box Type structures often have interior concrete shear walls.
Number of Stories:	Heights vary from single-story to high-rise structures.
Occupancy Types:	Occupancies may include any type. The most common occupancies are offices, schools, apartments, hospitals, hotels, parking structures, and multi-purpose facilities. Highway bridges and overpasses are a particular form of very heavy floor construction.

Pre-cast Concrete Construction

Structures in this general construction category are typically built utilizing modular pre-cast concrete components that include floors, walls, beams, columns, and other subcomponents that are field connected upon placement on site. Floor and roof components are normally reinforced using pre-tensioned steel cables that are bonded to the concrete as it is cast around the cables in the pre-casting factory. Individual concrete components utilize imbedded steel weldments and cast-in-place, topping slabs for the interconnection that provides for structural stability. These interconnections are critical to prevent widespread collapse problems during earthquakes. These structures are usually built using a regular grid of columns and beams, and most often have concrete or masonry shear walls to provide “Box Type” resistance to earthquake forces and high winds.

These buildings are configured as follows:

Roof and Floors:	Single and double “T” components are used in longer-span systems to span between pre-cast beams. Hollow core or solid concrete planks are used to span shorter distances between beams or walls. Cast-in-place (rebar or post-tensioned) concrete slabs over pre-tensioned pre-cast concrete girders are often used in garages and office buildings.
Exterior Columns and Walls:	Pre-cast concrete columns are often used as the primary exterior supports. The spaces between columns may be enclosed with infill or panel walls of glass in metal frames, metal studs and plaster, reinforced masonry shear walls, brick or stone veneer on metal studs, and pre-cast concrete panels. Combinations of these materials may also be used. Pre-cast concrete frames and cast-in-place concrete shear walls have been used as the primary exterior supports for these structures.
Interior Columns and Walls:	A pre-cast concrete or steel columns grid is usually used to support the beams and girders. Interior spaces may be divided using non-structural walls constructed using metal studs and gypsum board or concrete masonry unit (CMU) blocks. Non-structural walls in non-west coast types may employ URM.
Number of Stories:	Heights vary from single-story to high-rise structures.
Occupancy Types:	Occupancies may include commercial, office, or multi-use/multi-function structures, including parking structures and large occupancy facilities. Highway bridges and overpasses may be constructed using pre-cast concrete segments or pre-cast beams in combination with cast-in-place concrete slabs.

Steel Frame Construction

Structures in this general construction category are typically built using some type of steel beam and column system that is configured in a grid pattern. Lateral resistance against earthquake and severe wind forces is provided either by specially designed frames or diagonal bracing.

These buildings are configured as follows:

Roof:	Roof purlins and beams are comprised of solid steel or light steel "Bar Joists" that are sheathed with a corrugated metal deck. In all but some prefab types, the sheathing is covered with insulation to form a flat surface. Purlins, beams, and bar joists are supported by steel girders or trusses. Some steel frame structures may have wood sheathing, joists, and beams supported by steel girders and/or trusses.
Floors:	Floors are typically built using concrete fill on corrugated metal decks, but in some cases, pre-cast concrete planks or even wood truss joists with plywood sheathing may be used. Solid steel beams and steel trusses are typically used to span between the steel girders.
Exterior Columns and Walls:	Steel columns are the main exterior supports. The spaces between columns may be enclosed with infill/panel walls of glass in metal frames, metal studs and plaster, brick or stone veneer on metal studs, metal siding, or pre-cast concrete panels. Combinations of these materials may also be used. In older and non-west coast buildings, infill walls may be constructed using very brittle materials such as URM, terra cotta tiles, or hollow clay tiles.
Interior Columns and Walls:	A grid of steel columns is usually used to support the beams and girders. Interior spaces may be divided using non-structural walls constructed using metal studs and gypsum board. Non-structural walls may employ URM.
Occupancy Types:	Prefabricated metal buildings include mostly one-story, light industrial buildings. Low Rise, non-fireproofed buildings and other structures include one and two-story commercial, office, large industrial facilities, institutional structures, and convention and sports arenas with high, exposed roof systems. High Rise, fireproofed buildings include multi-story structures configured with fire sprinklers, standpipes, smoke-proof stairs, and other fire protection systems. Fireproofing may consist of sprayed-on fiber, layers of gypsum board or concrete, and masonry encasement in older buildings.

Chapter 9: Heavy Equipment Resource Typing

Heavy equipment must only be used and supervised by qualified personnel. Equipment selection lies in finding the right tool for a given operation. It means ensuring that the given piece of equipment is configured in a manner that allows it to maximize safe rescue or recovery potential as well as minimize downtime. As such, there are several basic considerations for selecting the right piece of equipment for any given task.

Selection of the right piece of equipment, affects operational success. Using a machine can pose a substantial risk to rescuers and/or victims and should be used in rescue operations with extreme caution.

Using a machine with too large capacity might increase effectiveness to some extent but will ultimately pose too high of risk for safe use. The work activity includes all factors associated with the specific physical task. Mechanical operations are typical for each classification of excavation and lifting equipment. Failure to match the appropriate machine to the work task usually results in operating and placing the personnel at extreme risk due to improper use. Using machines matched to the task will greatly increase the chance of avoiding injuries and undue risk to rescuers and/or victims.

One of the most important considerations when selecting a piece of equipment is the availability of the right machine with proper and timely service, maintenance, and repair. The right machine must not only match mechanical functions, but also power, capacity, and control requirements.

The physical properties of building debris, concrete, construction material, clay, gravel, organic matter, rock, sand, or silt to be moved or excavated has a direct influence on the type and capacity of equipment selected for a specific work activity. The ease or difficulty of removing and handling material directly influences the amount of machine productivity. This will also determine capacities and types of buckets, blades, and attachment or accessories.

How the collapse debris and various types of soil break apart or stick together will influence how much can be put in a bucket, blade, bowl, or bed. The composition of the material and the amount of moisture contained in debris will influence the heaped capacity that the bucket can hold, or the blade can push. Debris and/or soil type and stability are also important to the engineer because the size of the particles, physical properties, and behavior when the moisture content is changed greatly influences operations. These decisions influence the types and capacities of the equipment needed by rescuers or recovery personnel for the site and ultimate removal of victims.

If there is a large volume of debris that needs to be moved quickly, a large piece of machinery will probably be most efficient but can also pose the biggest risk. If there is a small volume of debris to be excavated, a smaller piece of machinery should be considered.

HEAVY EQUIPMENT RESOURCE TYPING

RESOURCE	COMPONENT	Type 1	Type 2	Type 3	Type 4
Hydraulic Truck Crane	Rating (Tons) Radius (Feet)	100 ton+ Up to 275 feet	50-100 ton Up to 200 feet	Up to 50 ton Up to 150 feet	
Hydraulic Rough Terrain Crane	Rating (Tons) Radius (Feet)	Up to 50 ton Up to 100 feet			
Conventional Truck Crane	Rating (Tons) Radius (Feet)	150 ton+ Up to 300 feet	75-150 ton Up to 250 feet	Up to 75 ton Up to 150 feet	
Conventional Crawler Crane	Rating (Tons) Radius (Feet)	350 ton+ Up to 350+ feet	100-350 ton Up to 275 feet	Up to 100 ton Up to 160 feet	
Excavator Crawler	Rating (Lbs.) Reach	80k lbs.+ Up to 70 feet	40-80k lbs. Up to 50 feet	Up to 40k lbs. Up to 40 feet	Mini
Loader Rubber Tire	Rating (Cubic Yards)	5 cubic yards	3-5 cubic yards	1-3 cubic yards	Backhoe Skid Steer Mini
Forklift Conventional	Rating (Tons)	25 ton+	10-25 ton	5-10 ton	
Forklift All-Terrain Extendable	Rating (Lbs.)	3-6 tons (6-12k lbs.)			
Dozer	HP	Heavy 200 HP D-7, D-8	Medium 100 HP D-5, D-6	Light 50 HP D-4	

RESOURCE	COMPONENT (ALL TYPES 1-4)
Backhoe Excavators	Multifunctional (universal excavator), wheel or track mounted Attachment slewing ability: ± 90 degrees. Auxiliary attachments: front bucket or blade
Vacuum Truck	Commercial vacuum trucks which collect sludge usually have a volume of 350–1,940 cu ft. However various smaller versions for specialized applications or low-resource settings can be found with tanks as small as 130 US gal). Generally use a low-volume sliding vane pump or a liquid ring pump to create a negative air pressure.

Chapter 10: Reconnaissance *& Search Operations*

Search operations are the foundation of the US&R mission. If resources cannot find potential victims and confirm their location, successful rescues will not occur. It is the responsibility off all Technical Search and Rescue responders to implement a comprehensive search operation and to note and collect related information. Search personnel should use nationally recognized search terminology and marking systems when engaged in operations. Accurate and timely information gathered during search operations is critical for maximizing US&R resource effectiveness and mission tasking.

Reconnaissance

Recon is a function of the search element but in most cases is not searching for victims. Recon is the preliminary survey for the purpose of determining the scope and magnitude of the incident and identifying the resources needed to manage the incident. Emphasis should be placed on identifying the highest areas of victim survivability.

Upon arrival to a US&R incident, two potential situations will be present:

1. Initial reconnaissance has been completed with specific areas designated as priority search and/or rescue operations.

-Or-

2. Reconnaissance is either not completed or unreliable and critical assessment is needed.

In the conduct of a reconnaissance, personnel should remain mobile and should not engage in rescue activity until completed. Considerations for Recon operations include:

- Initial visual check of damaged area and/or assigned area of operation
- May be conducted on foot, by vehicle, by watercraft, or by air
- For isolated structure collapse incidents, the primary purpose of this action is structural assessment and hazardous materials assessment
- Known locations of live or deceased victims will be recorded and appropriate
- rescue or recovery resources will be requested
- Size and make up of recon teams are incident driven and flexible
- Identification of areas of highest probability for rescuing the maximum number of victims
- Timely reporting of recon information is critical to the health and safety of responders, survivability of victims, and effective management of the incident
- Recon teams should not engage in rescue operations

Structural Triage

Technical Search and Rescue responders should “triage” structures, when appropriate, and when there are multiple structures compromised. If available a Structures Specialist may complete the structure triage prior to any US&R operations in partially collapsed, racked structure or when a building is totally collapsed. This is not intended to limit the ability of rescuers to engage in operations if a Structures Specialist is not available. A Hazardous Materials Specialist should also be included during reconnaissance or during structure triage to assist in identifying hazardous conditions. During the structure triage personnel should note:

- Type of Occupancy
- Time of Day
- Structure Type
- Collapse Type
- Resources Available
- General Structure Condition
- Any prior Intelligence Information

General “Go or No-Go” recommendations should be analyzed, and information should be conveyed to the US&R resource supervisor and if applicable to US&R Task Force Leader(s), Safety Officer-US&R, Search Team Manager and Rescue Team Manager.

Five Phases of Search:

- Assessment of the area
- Surface victim removal
- Exploration of void spaces
- Specific breaching and/or debris removal
- General debris removal

Generally accepted search procedures should be followed and standard procedures such as “Go right, stay right” and “Line abreast” formations should be used as appropriate.

Search Types:

Hasty Search (Rapid Search)

Hasty Search is a fast paced and methodical search to locate victims that are in immediate need of rescue. **This type of search is considered DETECTION MODE** which is a search to determine if victims are present.

Other considerations for Hasty Search include:

- May be conducted on foot, by vehicle, by watercraft, or by air
- Size and make up of Hasty Search teams are incident driven and flexible
- If live victims are located and can be easily evacuated, they will be immediately removed and moved to the identified casualty collection point
- Known locations of live or deceased victims will be recorded and appropriate rescue or recovery resources will be requested
- Documentation of areas searched must be recorded and reported
- Rapid Search may be accomplished simultaneously with Recon

Primary Search

Primary Search is a quick search of structures likely to contain survivors. Detection of victims, present is the priority during this phase of search operations. Primary searches are ground or waterborne operations conducted by walking or boating around every structure looking for victims. This is accomplished by looking into every window/opening, knocking on doors, and hailing for live victims.

If there are signs of victims (dead or alive) appropriate action will be taken based on the incident objectives. **This type of search is considered a DETECTION MODE** which is a search to determine if victims are present. When available live victim search canines are in many cases the best resource to use during this phase for rapid completion. Use of Human Remains Detection canines (HRD) may be considered during this phase.

Other considerations for Primary Search are:

- Fast paced, quick scan of surface debris in and around structures and selected voids
- Size and makeup of the search team is incident driven and flexible
- Detection resources may include physical, canine, and technical
- Known locations of live or deceased victims will be recorded and appropriate rescue or recovery resources will be requested
- Actions necessary to immediately correct life-threatening injuries may be performed by this team
- Searched structures will be marked utilizing the Search Marking System
- Victim locations will be marked utilizing the Victim Marking System and GPS

Secondary Low Coverage Search

Is the systematic search of every room of every structure in the assigned area of operation. Forced entry of structures may be required to accomplish this objective but will only be done in accordance with the AHJ’s rules of engagement and with the authority of the Incident Commander. This may involve selective debris removal of building materials to expose void spaces.

This type of search is considered a LOCATION MODE and following detection, is used to confirm and pinpoint victim's location for rescue.

When available live victim search canines are in many cases the best resource to use during this phase for rapid completion. Confirmation of a victim location should be conducted by a second canine whenever possible. Use of Human Remains Detection canines (HRD) should be considered during this phase as appropriate.

- Slower and more methodical search of structures, debris, and voids
- Size and makeup of the search team is incident driven and flexible
- Resources may include physical, canine, and technical to locate victim(s)
- The priority during this phase of search is the discovery and removal of live victims and may require a long-term commitment of resources to complete
- Known locations of live or deceased victims will be recorded and appropriate rescue or recovery resources will be requested
- Actions necessary to immediately correct life-threatening injuries may be performed by this team
- Searched structures will be marked utilizing the Search Marking System
- Victim locations will be marked utilizing the Victim Marking System and GPS

Secondary High Coverage Search

Is the systematic search of every room of every structure in the assigned area of operation. Forced entry of structures may be required to accomplish this objective but will only be done in accordance with the AHJ rules of engagement and with the authority of the Incident Commander.

This type of search is considered a LOCATION MODE and following detection, is used to confirm and pinpoint victim's location for rescue.

This includes complete delayering and removal of collapsed debris and may include use of heavy equipment.

- Slow methodical search of structures, debris, and voids
- Size and makeup of the search team is incident driven and flexible
- Resources may include physical, canine, and technical to locate victim(s)
- The priority during this phase of search is the discovery and removal of live victims is unlikely and efforts must still be thorough. During this phase incident operations may convert from “rescue operations” to “recovery operations” as determined by the Incident Commander(s). This phase may still require a long-term commitment of resources to complete.
- Known locations of live or deceased victims will be recorded and appropriate rescue or recovery resources will be requested
- Actions necessary to immediately correct life-threatening injuries may be performed by this team
- Searched structures will be marked utilizing the Search Marking System
- Victim locations will be marked utilizing the Victim Marking System and GPS

- Approval for the use of heavy equipment must be approved by the Incident Commander(s) and extreme caution should be used when operating around any heavy equipment or machinery.

Targeted Search (Special Response Search)

A Targeted Search is conducted in most cases prior to an event occurring such as a hurricane event. The Targeted Search is a search implemented to gather information regarding the need for evacuation or rescue of pre-identified special needs populations. Targeted Search may be conducted pre or post incident at these pre-identified locations. Such pre-identified locations may include, hospitals, nursing homes, evacuation shelters, and other critical infrastructure facilities.

Wide Area Search

Search personnel must coordinate with command personnel whenever possible to assist in determining priorities for a wide area search. Conditions may warrant to shelter victims in place based on intelligence gathered during wide area searches. Intelligence gathered during a wide area reconnaissance and search is critical in deciding when, where, and what resources should be used to begin more focused US&R operations. Incidents requiring wide area searches may require a long-term commitment of personnel to complete. Rapid exchange of information during wide area searches will assist incident command and operational supervisors to deliver accurate and efficient briefings to personnel assigned to rescue operations.

Structure/Hazards Marking System

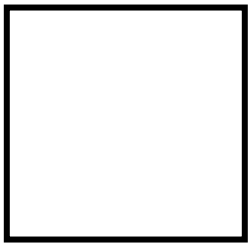
At incidents involving several structures or large areas of damage, the identity and location of individual structures is crucial. The use of existing street names and addresses should always be considered first. If due to damage this is not possible, use the existing hundred block and place all even numbers on one side of the street and all odd numbers on the other side. Mark the new numbers on the front of the structure with orange spray paint. If due to damage the name of the street is not identifiable start with the letter "A" using the phonetic alphabet "Alpha", "Bravo", Charlie, etc.

Structure hazards identified during initial size up activities and throughout the incident should be noted. This Structure/Hazards Mark should be made on the outside of all normal entry points. Search placards or orange spray paint are most easily seen on most backgrounds and line marking or downward spray cans apply the best paint marks. Lumber chalk or lumber crayons should be used to mark additional information inside the search mark itself because they are easier to write with than spray paint. The search marking sticker provides users with information to apply consistent FEMA required search markings and is used as an alternative to spray-paint. It is a high-visibility, peel-and-stick label that can be applied to structures to display the appropriate search markings.

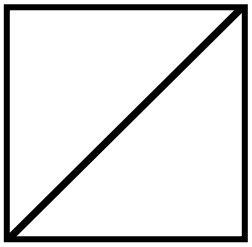
A large square box (approximately two feet) is outlined at any entrance accessible for entry into any compromised structure. Use orange paint for this marking. Specific markings will be clearly made adjacent to the box to indicate the condition of the structure and any hazards found at the time of this assessment. Normally the square box marking would be made immediately adjacent to the entry point identified as safe. An arrow will be placed next to the box indicating the direction of the safe entrance if the Structure/Hazards marking must be made somewhat remote from the safe entrance.

Structure Hazard Markings

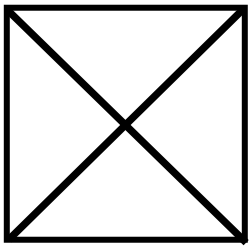
Low Risk for US&R operations, with low probability of Further collapse. Victims could be trapped by contents, or building could be completely pancaked or soft 1st story.



Medium Risk for US&R operations, and structure is significantly damaged. May need shoring, bracing, removal, and/or monitoring of hazards. The structure may be partly collapsed.



High Risk for US&R operations and may be subject to sudden collapse. Remote search operations may proceed at significant risk. If rescue operations are undertaken, significant and time-consuming mitigation should be done.

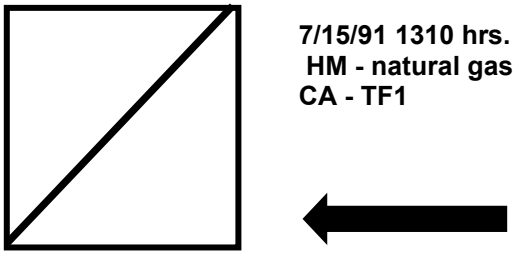


Arrow located next to a marking box indicates the direction of the safest entry point to the structure. This arrow is added when the marking box must be drawn at a distance from the indicated entrance.

Hazardous Material condition exists in or adjacent to the structure. Personnel may be in jeopardy. Consideration for operations should be made in conjunction with the Hazardous materials Specialist. Type of hazard may also be noted.

HM

Structure/hazards evaluation markings require that the TIME, DATE, and TF ID, are noted outside the box on the right-hand side. This information is written with a paint stick or lumber crayon. Paper (or cardboard), placards that have adhesive backing may need to be attached using duct tape as well to ensure proper and secure positioning.



Search Marking System

Search Markings must be easy to make, easy to read and easy to understand. To be easily seen the search mark must be large and of a contrasting color to the background surface. Orange spray paint seems to be the most easily seen color on most backgrounds and line marking or downward spray cans apply the best paint marks. A lumber marking device may be used to write additional information inside the search mark itself when it would be difficult to write the additional information with spray paint.

A large distinct marking will be made outside the main entrance of each building, structure, or area to be searched. This "Main Entrance" search marking will be completed in two steps. First, a large single slash (approximately two feet) shall be made starting at the upper left moving to the lower right near the main entrance at the start of the search. The Search Team identifier and time that the structure was entered shall be marked to the left of the mid-point of the slash and the date shall be marked near the top of the slash on the opposite side.

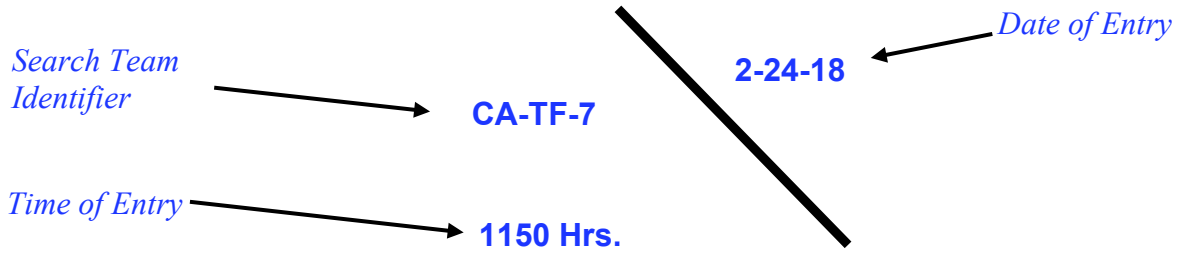
When the search of the entire structure is complete and the Search Team exits the building, a second large slash shall be made in the opposite direction forming an "X" on the Main Entrance search marking. Additional information summarizing the entire search of the structure will be placed in three quadrants of the "X". The left quadrant will already contain the Search Team identifier and time when the team first entered the structure. In the top quadrant enter the time the Search Team exited the structure under the date. Change the date if different from date the structure was entered. The right quadrant is for any significant hazards located inside the structure. The bottom quadrant is for the number of live “L” or dead “D” victims still inside the structure. Use a small "0" in the bottom quadrant if no victims are inside the structure.

If the search of the entire structure is incomplete, make a circle (approximately 1’ diameter) in the middle of the single slash. The left side will already contain the Search Team identifier and time when the team first entered the structure. At the top end of the slash enter the time the Search Team exited the structure under the date. Change the date if different from date the structure was entered. On the right side, midpoint of the slash, is for any significant hazards located inside the structure. The bottom end of the slash is for the number of live “L” or dead “D” victims still inside the structure. Use a small "X" at the bottom if no victims are inside the structure.

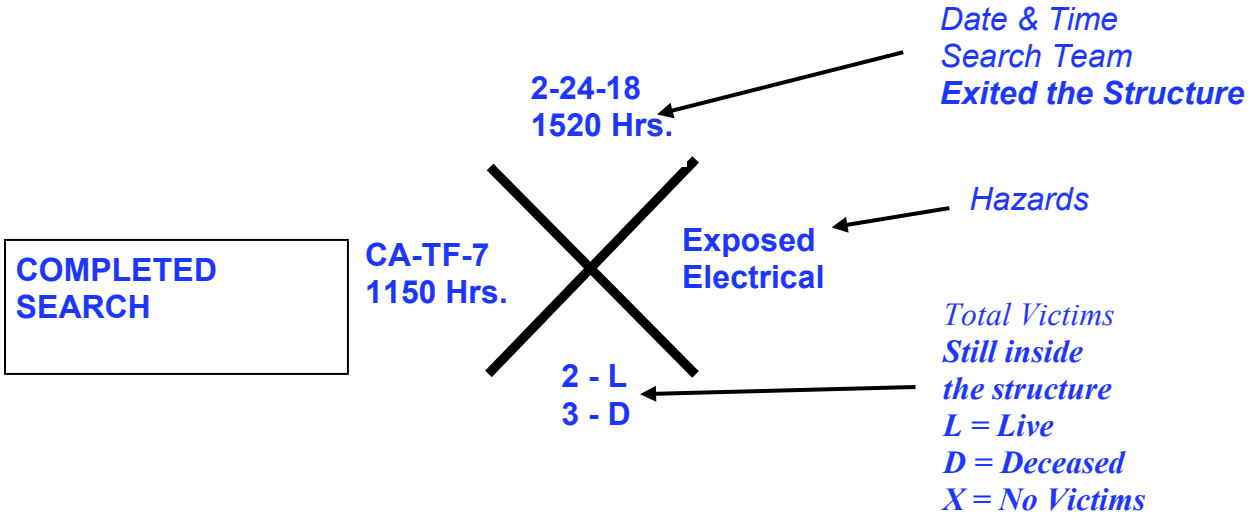
During the search function while inside the structure a large single slash shall be made upon entry of each room, area, or floor. After the search of the room or area has been completed, a second large slash shall be drawn in the opposite direction forming an "X". The only additional information placed in any of the "X" quadrants while inside the structure shall be that pertaining to any significant hazards and the number of live “L” or dead “D” victims, as indicated by “L” for live and “D” for dead.

Search Markings

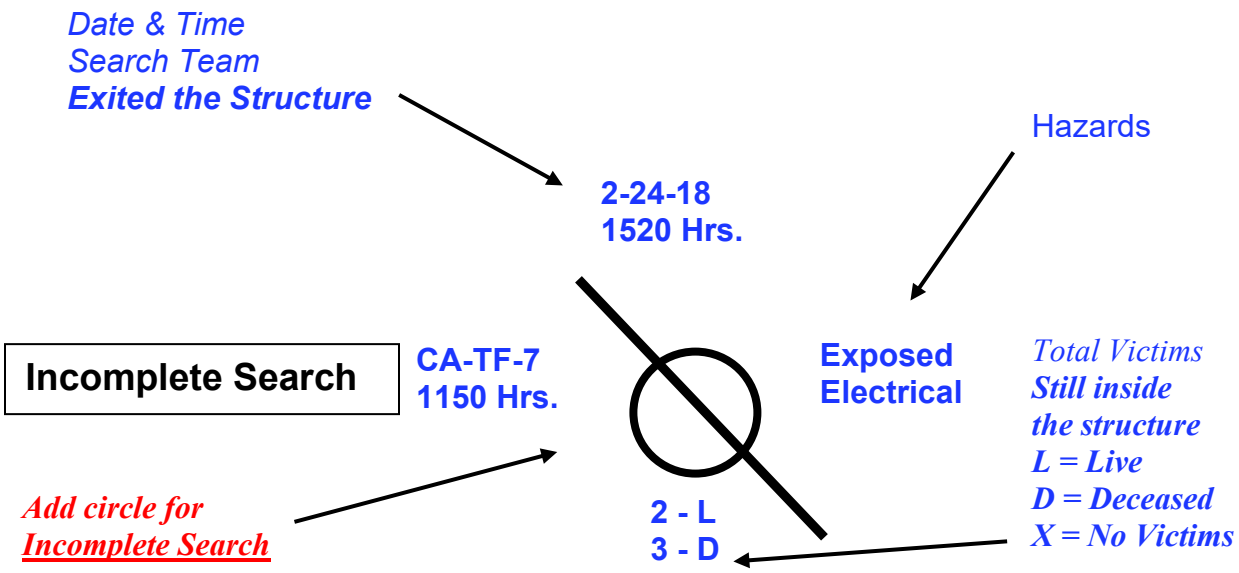
Main Entrance Search Marking- WHEN YOU ENTER



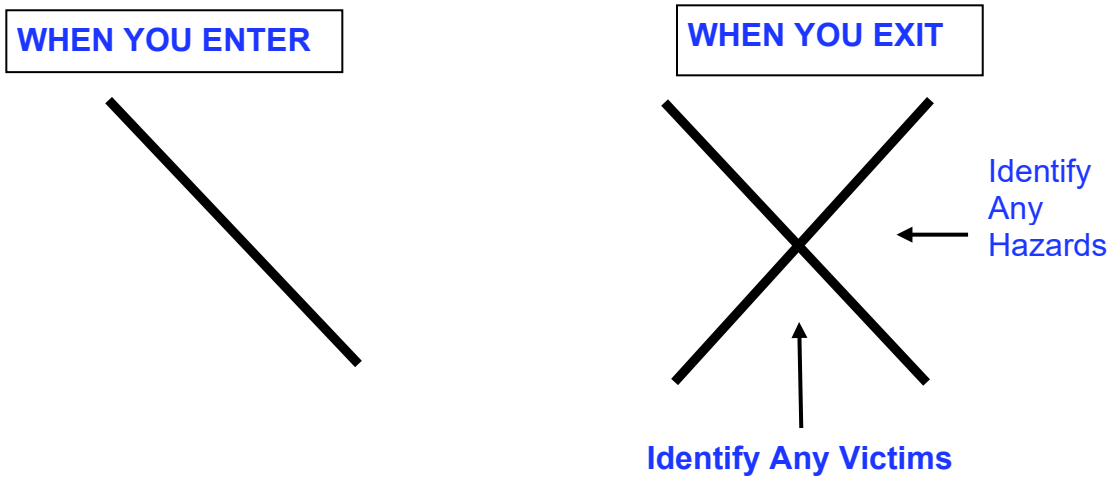
Main Entrance Search Marking- WHEN YOU EXIT



Main Entrance Search Marking- WHEN YOU EXIT

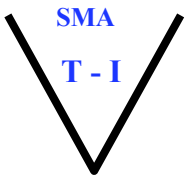


INTERIOR SEARCH MARKINGS- EACH ROOM, AREA OR FLOOR

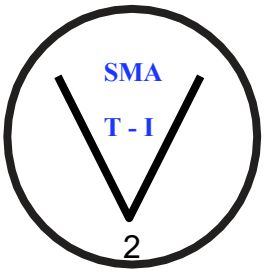


Victim Marking System

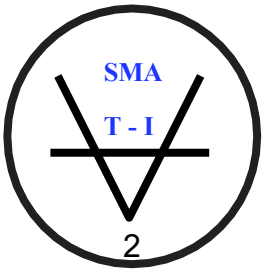
Make a large (2' x 2') “V” with orange spray paint near the location of a **potential** victim. Mark the name of the search team or crew identifier in the top part of the “V” with paint or a lumber marker type device.



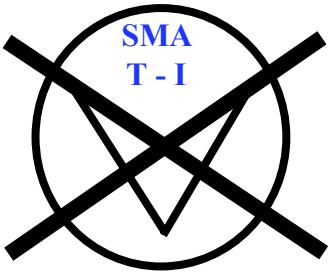
Paint a circle around the “V” when a potential victim is **confirmed** to be **alive** either visually, vocally, or hearing specific sounds that would indicate a high probability of a live victim. If more than one confirmed live victim, mark the total number of victims under the “V”.



Paint a horizontal line through the middle of the “V” when a confirmed victim is determined to be deceased. If more than one confirmed deceased victim, mark the total number of victims under the “V”. Use both the live and deceased victim marking symbols when a combination of live and deceased victims are determined to be in the same location.



Paint an “X” through the confirmed victim symbol after all victim(s) have been removed from the specific location identified by the marking.



An arrow may need to be painted next to the “V” pointing towards the victim when the victim’s location is not immediately near where the “V” is painted.

Chemical Light and Flagging Tape Plan

Chemical light marking for low light and night operation should include flagging tape of the same color as the light stick.

	Marker-Neutral
RED	**No Go, Hazard**
YELLOW	**Caution**
GREEN	**Entry Location, Personnel**
BLUE	**Victim**

***Each lighted location should be accompanied by the appropriate building, search or victim marking as referenced on pages xx thru xx as necessary.**

Emergency Signaling System

Because of the high potential of secondary collapse, dangerous conditions, and the need to communicate other essential information, an emergency signaling system should be adopted and in use by all personnel at the incident site. Emergency signals must be a loud, identifiable, and sounded when conditions require immediate attention. Emergency signals can be made using devices such as a whistle, air horn, vehicle horn or bell. Each structure or larger area of operations may need to have its own distinct emergency signal device when multiple rescue operations are taking place in the same area to reduce confusion.

Supervisors should identify and inform assigned personnel of a designated place of assembly and/or safe zone for a Personal Accountability Report (PAR) to be conducted should an evacuation signal be sounded. A place of assembly is usually a safe location outside the evacuation area. A safe zone is usually a safe location within a building or disaster site that can be entered within the evacuation area. When an evacuation signal is sounded, all supervisors must conduct a roll call of their assigned personnel and communicate the results of the PAR to their supervisor.

Evacuate the area	**Short signals repeated for 10 seconds, pause for 10 seconds, and repeat for 3 repetitions. Total signal time – 50 seconds.**
Cease Operations / All quite	**One long signal (8 to 10 seconds)**
Resume Operations	**One long and one short signal.**

Chapter 11: Hazardous Material/CBRNE Technical Rescue Considerations

Haz-Mat/CBRNE Considerations

The release of hazardous materials may result from a natural disaster, the actions of terrorists, or may be present as part of a site's normal environment. The health and safety of rescuers is of paramount concern and is the primary focus of the Hazardous materials Specialists. Preparation for, response to, recovery from, and the mitigation of the contaminated SAR environment will require a coordinated response involving federal, state, local and tribal governments. Non-governmental organizations and private sector resources may also be requested for support. Hazardous materials Specialist positions were added to each national and state task forces for the specific hazards of a contaminated environment that often occurs during a disaster.

The initial focus and mission for technical search and rescue resources has also expanded to include response to terrorist incidents and hurricane disasters covering large geographic areas. Recent experience has demonstrated the need for US&R personnel to be fully prepared to work in a contaminated environment. Conducting SAR operations in a contaminated environment is dangerous and challenging. The health and safety of Task Force members is the top priority. As such, hazard and risk assessments by the Hazardous Materials Specialists, in conjunction with Medical Specialists, US&R Paramedics, and Safety Officers is necessary and will dictate a defensive or offensive posture. Local first responders may not have conducted an initial site characterization prior to US&R resource arrival. Therefore, US&R task forces will be required to verify atmospheric conditions prior to commencing operations. US&R task forces carry a limited supply of atmospheric monitors and personal protective equipment. Technical Rescue and US&R resources will need logistics support to continue extended SAR operations in a contaminated environment.

Logistics support includes but is not limited to:

- Water for decontamination
- Grade D breathing air
- Definitive site characterization from other agencies
- Reach-back analytical support services
- Hazardous waste and wastewater removal services

Technical Search and Rescue resources often will be operating within a Unified Command structure and will be working with responders from all levels of government. These may include but are not limited to:

- Local fire department hazardous materials teams
- State hazardous materials teams
- Environmental Protection Agency (EPA)
- Department of Justice (DOJ)
- Department of Defense (DoD), i.e.,
  - National Guard Bureau Civil Support Teams (CST)
  - Chemical, Biological, Radiological/Nuclear, and Explosive (CBRNE)
  - Enhanced Response Force Package Teams (CERFP))
- Department of Energy (DOE)
- Department of Labor (DOL), Occupational Safety and Health Administration (OSHA)
- Department of Homeland Security (DHS)
  - United States Coast Guard (USCG)
  - Customs and Border Protection (CBP)
  - Prepositioned Equipment Program Pods (PEP)
- Department of Health and Human Services (DHHS)
  - National Disaster Medical System (NDMS)
  - Centers for Disease Control (CDC)
- Department of Interior (DOI)

Standards and procedures for hazardous materials operations will meet existing regulatory guidelines and follow safe operating practices for contaminated environments. The utilization of NFPA 1994: “Standard on Protective Ensembles for First Responders to Hazardous Materials Emergencies and CBRN Terrorism Incidents” is critical to providing for the health and safety of US&R members.

Operational safety concerns include:

- Site characterization and Site Safety Plans
- Modified work cycles and medical surveillance

All Technical Search and Rescue members should receive basic training on response to hazardous materials incidents as well as added hazardous materials recognition, use of equipment, and decontamination training. The Medical Specialists, US&R Paramedics and Hazardous materials Specialists additionally should receive advanced training in their disciplines, relative to hazardous materials release situations. US&R task forces are not equipped, nor intended to operate as a hazardous materials team.

The following operations are not conducted by US&R task forces due to equipment limitations.

1. Bonding & grounding operations
2. Plugging & patching operations
3. Off-loading
4. Capping
5. Flaring
6. Definitive chemical agent identification (beyond presumptive determination)
7. Absorbing or removal (the use of dirt or other onsite materials to absorb small quantities of liquids is possible)
8. Site mitigation
9. Mass decontamination
10. Sustained refill of breathing air for SCBA
11. Containing more than 600 gallons of contaminated decontamination water

In a contaminated environment, California FEMA US&R Type 1 & 2 Task Forces are equipped, trained for, and designed to do the following using a combination of protective clothing and detection equipment. US&R task forces can:

1. Presumptively characterize a contaminated rescue site
2. Decontaminate task force personnel and limited survivors
3. Perform limited debris pile tunneling*
4. Perform limited breaching*
5. Perform limited shoring*
6. Perform limited search*
7. Perform limited survivor rescue/extraction*
8. Perform limited survivor and US&R personnel medical treatment
9. Shut off working valves
10. Perform other US&R functions where engineered controls can be used to manage the environment or limit the risk of protective equipment failure

* The limiting factor is determined by the capability and availability of the Personal Protective Equipment (PPE) for the environmental conditions.

Hazardous materials Specialists assigned to Technical Search and Rescue resources and/or incidents are essential to ensure the health and safety of survivors and rescuers. This can be accomplished through the application of limited monitoring, detection, and contamination-reduction capabilities.

In addition to their regular duties and responsibilities, these position-specific considerations should be in effect:

Safety Officer:

- Be knowledgeable in the operations being implemented at the emergency response site, with specific responsibility to recognize and identify hazards, and to provide direction regarding the safety of operations being conducted
- Assess the need for site security and determine what measures may be appropriate to ensure security. Make recommendations to the TFL for implementing a site security plan.
- If possible, be cross-trained as a hazardous materials technician (recommendation, but not a requirement).

Medical Team Manager (California FEMA Type 1 & 2 US&R Task Forces):

- Have extensive knowledge of the signs, symptoms, and effects of exposure to industrial and military grade agents, toxins, and contaminants. In addition to the regular duties and responsibilities of the Medical Team Manager, he/she also should:
- Have a deep awareness of hazardous materials exposure-related health issues, including prophylaxis and acute and chronic care.
- Remain in constant contact with the TFL and Safety Officer for situational updates.
- Rigorously monitor the health of all task force members and canines.

Hazardous Materials Team Manager or Hazardous Materials Specialists (California FEMA Type 1 & 2 US&R Task Forces):

- Meet all requirements of the Hazardous materials Specialist. In addition to the regular duties and responsibilities of the Hazardous materials Team Manager, he/she also should:
- Interface with the on-scene Incident Management Team and/or Incident Support Team (IST) Hazardous materials Specialist, and hazardous materials/environmental agencies at all levels of government.
- Evaluate the impact of current and future weather conditions.
- Provide safety briefing to personnel before commencing operations.
- Ensure that control zones have been established and enforced to protect the site and task force members.

This includes establishing:

- Hazard zones
- Decontamination corridors and methods
- Operational work areas
- Safe Refuge areas
- Begin the overall assessment process of operational areas to determine: Functional requirements and immediate needs
- Work schedules for extended operations, including rest and rotation periods for personnel
- Adequacy and availability of external agencies to provide support services (e.g., decontamination water supply, SCBA refill source, decontamination wastewater removal, and analytical laboratory resources)
- Ensure that ongoing site hazard and risk assessments are performed
- Develop the Site Safety Plan in coordination with the Safety Officer, other US&R resources and task forces, and hazardous materials/environmental agencies at all levels of government. This includes:

    1. Identifying emergency signaling procedures
    2. Planning contingencies for the rescue of task force personnel
    3. Establishing escape routes and safety zones

Providing input to the Safety Officer to ensure that the health and welfare needs of task force members are addressed

- Determine the proper level of chemical PPE for initial reconnaissance and subsequent operations.
- Ensure medical and decontamination functions are operational prior to entry into exclusion zones.
- Assign Hazardous materials Specialists as needed.
- Document hazardous materials group findings, actions, and activities.

The Site Safety Plan

In addition to the necessary components of the Operational Action, the Site Safety Plan should encompass all health and safety aspects of conducting SAR operations in or near a contaminated environment.

- Location and size of control zones and access control points Some of the areas that should be addressed in the Site Safety Plan are:
- Proper level of PPE in each zone

- Development of a decontamination plan to include:
  - Decontamination site locations, including access and egress for the decontamination corridor
  - Decontamination methods
  - Proper setup of the decontamination corridor
  - Safe refuge areas
  - Establishing a Rapid Intervention Team (RIT) outfitted with chemical protective clothing
- Medical monitoring of responders operating in chemical protective clothing
- Emergency signaling procedures, escape routes, and safety zones
- Responder accountability
- Establishment of a Responder Medical Treatment Team
- Work cycles and entry time parameters

All personnel operating on a US&R incident must be proficient in building triage and US&R marking systems. Standard building marking includes identification and identifying the presence of hazardous materials. Haz-Mat personnel operating during rescue and recovery operations should working with logistics personnel to establish and maintain a regular maintenance scheduled for hazardous materials cache items requiring calibration, battery charging, function tests, and field repair.

Haz-Mat personnel should gather appropriate hazardous material information from local sources and conduct a local site survey (and if possible, an aerial reconnaissance) for the general area (approximately a five-mile radius).

Efforts should include a sketch the general area and note the following:

- Location and status of major fixed facilities and transportation lines (i.e., nuclear power facilities, hazardous waste sites, refineries, etc.)
- Topography
- Prevailing weather conditions (i.e., present, 6-hour, 24- hour, and 72-hour forecasts)
- Evidence of smoke, flame, vapor cloud, etc.
- Visible structural damage to critical facilities

An assessment on the local capacity to treat possible hazardous material exposure to victims or rescuers and availability of decontamination, in the event of contact, as appropriate. Consideration must be given to rapid emergency decontamination to be followed by a more thorough technical decontamination if indicated.

Identify issues that could require the determination of:

1. Conditional entry, or

2. The cessation of operations, such as damage to nuclear facilities or installations

causing the migration of hazardous products toward the specific rescue area.

- Flammable atmospheres (10% of the Lower Explosive Limit)
- Oxygen deficiencies
- Radiation levels
- Biological agents or contaminants
- Asbestos contamination
- Other specific products, as indicated

If indicated the Haz-Mat personnel should take steps to deny entry, unless appropriate protective action is taken, if the following conditions exist:

- Any positive flammable gas indicator readings
- Oxygen levels below 19.5% or above 22.0%
- Any toxic material readings within 10% of its Immediate Danger to Life and Health (IDLH)
- Obvious or perceptible fumes, odors, smoke, or vapor from a confined space, or where vision is obscured within five-foot levels
- Asbestos hazards
- Verify meter readings with a second meter and different operator, if possible. All readings will be documented according to operator and meter unit number, and will denote the findings, time, and location

Monitoring of working rescue sites must be ongoing as necessary. Haz-Mat technical assistance should be provided to the appropriate supervisory positions and any tactical accomplishments or conflicts, supplies deficiencies, or equipment malfunctions.

Chapter 12: Swiftwater/Flood Search & Rescue

This chapter updates and replaces ICS USAR 120-2: Swiftwater/Flood Search and Rescue Operational System Description and Law Enforcement Mutual Aid Plan (SAR) Annex (January 24, 2001), and ICS-SF-SAR 020-1: Swiftwater/Flood Search and Rescue Recommended Training, Skills, and Equipment List (January 24, 2001), both of which are hereby incorporated and codified within this document, ICS-162: Technical Search and Rescue Incident Operational System Description.

Firefighters and other rescuers in California encounter a wide range of Swiftwater and Flood Search & Rescue (SF/S&R) emergencies and disasters, including victims swept away in rivers, streams, and aqueducts, fast-moving flood control channels that can carry victims miles downstream through urban areas (requiring or organized response by multiple fire department and other public safety resources to intercept them); and victims caught in the hydraulics of low head dams. Other common rescue encounters include victims trapped by flash floods and mud & debris flows (which sometimes occur in the same weather events); victims submerged in lakes, ponds, reservoirs, and other bodies of water; widespread flooding events; the failure of dams[1] and levees, and even tsunamis and hurricane storm surges that can impact the coast and run up estuaries and river valleys and flood low-lying areas. These incidents sometimes strain local capabilities, creating the need for mutual aid resources.

> For decades, Swiftwater and Flood Search & Rescue has been recognized as a formal mission of the California Fire Service, often operating in conjunction with California Law Enforcement Search and Rescue elements. This chapter identifies FIRESCOPE-recognized standards, and FIRESCOPE-typed resources that may be requested and employed by Incident Commanders (IC's) for the safe and effective resolution of SF/S&R emergencies and disasters. It focuses on the development and identification of SF/S&R resources that are part of the California Fire and Rescue Mutual Aid System[2]. It includes but is not limited to:
>
> --Organizational Development
> --SF/S&R Resource Typing
> --Training and Equipment
> --Procedures and Guidelines for Emergency and Disaster Operations

From the first-arriving public safety unit that must size up and recognize hazards and take initial action, to other resources on a First Alarm assignment, to more advanced

[1] The second-worst life loss disaster in California history was the 1928 failure of the St. Francis Dam in Los Angeles County's San Francisquito Canyon, sending a 120-foot high wall of water down the canyon into the Santa Clara River Valley, wiping out settlements on its way to the Pacific Ocean. Deaths from this event are estimated around 500 people, many of whom were never recovered.
[2] The California Law Enforcement Mutual Aid Plan, SAR Annex, also includes parallel standards SF/S&R resources standards, part of the state's efforts to maintain consistent mutual aid resource typing standards and knowledge, skills and abilities (KSA's).

elements of local response, to regional and state resources requested through California's Mutual Aid System, to disaster response elements of the National Urban Search & Rescue Response System and the potential for interstate mutual aid, this chapter of the FIRESCOPE Technical Search & Rescue Operational System Description is intended to help ensure a standardized approach to saving lives while providing for the safety of rescuers.

These standards are intended to facilitate the safe and efficient rescue of victims in moving and still water; effectively searching areas that have become flooded; conducting search & rescue operations in collapsed structures inundated by rising water; reaching and rescuing persons and companion animals trapped by flood waters; maintaining rescuer safety precautions and conducting Rapid Intervention operations when necessary; performing waterborne rapid needs assessment (RNA) when conditions warrant; conducting waterborne search & rescue from watercraft; supporting rotocraft-based swiftwater and flood rescue operations, providing water access for specialized units to complete critical tasks; and augmenting local, state or federal resources during water-related disasters.

Since some of the same conditions that create flood hazards also can result in mud & debris flows (sometimes simultaneous to floods), it is recognized that SF/S&R resources may play an important role in search and rescue under those conditions, sometimes in combination with Urban Search & Rescue resources, heavy equipment, and other assets.

The requirements and standards herein are consistent with NFPA 1670, NFPA 1006, requirements of the State Fire Marshal (State Fire Training), CICCS (California Incident Command Certification System), and NIMS Typing Standards. It is the responsibility of agencies responding to California Fire & Rescue Mutual Aid System requests to provide qualified personnel and equipment that meet or exceed the standards herein.

Initial Response to Swiftwater/Flood Search & Rescue Emergencies and Disasters

The first arriving public safety officer will direct initial SF/S&R operations. This officer will assume initial command of the operation as the Incident Commander (IC). Subsequent changes in the incident command structure will be based on the needs of the incident, with consideration of jurisdictional responsibilities, established agreements, state and local statutes and shall be accomplished by following established ICS procedures. Additional resources specifically trained and equipped for SF/S&R operations may be required. These SF/S&R resources may be requested and assigned as single resources, as Strike Teams, or as Task Forces.

Due to the unique hazards and complexity of swiftwater and flood rescue incidents, the IC may require a variety of different multi-disciplinary resources to accomplish the mission. FIRESCOPE SF/S&R typing reflects identified operational capabilities based on specialized training, skills, and equipment, providing the I.C. with the tools and flexibility to conduct swiftwater/flood search and rescue operations in a safe and appropriate manner.

Unified Command

Unified Command should be considered at SF/S&R incidents and disasters when multiple agencies or jurisdictions with statutory or political authority and financial responsibility are involved. Unified Commanders involved in a Unified Command shall be co-located. A single Command Post has been demonstrated to be the best method to ensure effective communications, coordination of resources, and overall operational management of the incident.

Size Up

Swiftwater and flood rescue operations shall be coordinated, conducted, and managed based on the principles herein, beginning with determination of the nature and scope of the operations, and information from AHJ (Authority Having Jurisdiction), direction from Incident Command, interview witnesses, etc. Resources should assess conditions, hazards, situation and needs, including:

- Water conditions such as inundation with still or moving water, natural or manmade waterways, strainers and other navigation hazards, potential for additional inundation (levee failure, dam failure, storm surge, additional tsunamis, flash flooding, mud & debris flows, etc.), potential for still water to become moving water (levee failure, etc.), potential water contamination (all water should be assumed contaminated until determined otherwise), and other conditions and hazards.
- Evaluate the capabilities of responding assets and determine if additional resources like SF/S&R resources or other specialized assets are needed.
- Current and changing weather (be cognizant of weather events in the total runoff area for the impact area in which you are operating).
- Determine the most appropriate resources (including watercraft, rotorcraft, high water vehicles, heavy equipment, etc.) to conduct or support operations.
- Considerations for useable daylight hours (time of day) for current and extended operational periods.
- Other factors that may affect the viability and safety of water operations. Conduct a risk-benefit analysis to identify the risks and determine the most appropriate tactics and strategy.

Search Operations in Water Environment

The most effective search strategy should blend tactical capabilities into a logical strategy to meet the objective. Naturally this will vary based on the scene conditions and needs. The search for a missing swimmer, or a victim swept away in a natural river, a flash flood, or a manmade aqueduct, a flood channel that may have carried a victim several miles downstream requiring a coordinated intercept rescue, or the failure of a dam or even a storm surge or tsunami, will necessitate different tactics and resources. Weather, time of day (e.g., daylight or darkness), current or anticipated water conditions, and the victim survivability profile, must be considered for effective, methodical, and timely initial and (if necessary) sustained search operations.

Some resources with limited Swiftwater/Flood Search & Rescue training and equipment may be restricted to shore-based search operations, while others with more advanced capabilities will be prepared to conduct in-water, on-water, or over-water search functions.

Providing Lookouts, Downstream Safety, and other safety measures is key where moving water, flood, mud & debris flow, dam failure, tsunami, or other conditions merit.

Wide Area Flood-Impacted or Waterborne Search

General accepted strategy for wide area search operations in a flood-impacted or waterborne environment begins with evaluating the scope and nature of the area to be searched, and the conditions that created the need for search operations and how those conditions may affect present and future operations. In some cases, there may be many structures damaged or surrounded by water or buried in mud and debris. The search area may be segmented by city block or other easily definable criteria, or it may be in a canyon, on a mountainside, along a beach, or in a flood plain. Each will require or organized approach for timely and safe access and search operations.

Wide Area Search (WAS) data collection methodology and tools are rapidly evolving and improving the accuracy, reportability, and use of Wide Area Search Data. The Incident Commander should ensure that appropriate Wide Area Search Data Collection methodology is being applied to the emergency or disaster, an example being SARCOP (SAR Common Operating Platform), which has been adopted by the California Urban Search & Rescue and the California Fire & Rescue Swiftwater/Flood Search & Rescue Systems.

Search and Rescue in Structures in the Water Environment

Proper search methodology is critical, including identifying structures that have been searched, how, by whom, and when (see Chapter 10, section Structure Hazard Markings, and refer to the Structure Triage, Assessment, and Marking System

Handbook.) All locations searched will be identified and logged with current data collection platforms (SARCOP, GPS coordinates), and photographed as necessary with results.

Triage of occupancies may be necessary to determine search focus in structures that present the highest likelihood of survivability (factors like type of construction, height/number of stories, proximity to high ground, and others). Access and proximity also may affect decisions about triaging search operations. Consideration should be paid to single story occupancies where there would have been fewer places to escape rising water. Particular attention should be focused on roofs and in attics where survivors may have found shelter and may be trapped within or on top.

The tactics for searching structures compromised by water will depend on the depth of the water remaining in the structure. If the water has been evacuated from the structure, the search and rescue operations will be consistent with current standards. If water remains in the structure, a thorough risk benefit analysis must be completed. Considerable damage may be sustained and unable to be assessed due to being underwater.

If water remains in the structure, it is probable that survivors will have moved to the highest levels of the structure, specifically in upper floors, on the roof, or in the crawl space in an attic. Rescuers must be prepared to perform inspection holes and to breach roofs to gain access to the attic space.

Recommended tool cache for boat-based search operations (with appropriate adjustments made for rotorcraft-based search/rescue)

- Forcible entry tools: Axe with cover, Halligan etc.
- Water Floatable Rope throw bags
- Survivor PFDs
- Chain Saw with protective cover-optional or stage at launch site
- Data collection device and/or GPS
- Marking paint
- Marking stickers
- Search camera
- Thermal Imaging Camera
- Atmospheric monitor
- Hot Stick
- Companion animal essentials
- Flashlights

Helicopter Access and Search/Rescue Operations

The transportation of boats and rescue crews to operational sites by helicopter may be dictated by conditions of the emergency or disaster, including current and anticipated weather, daylight or darkness, rotorcraft availability and typing, training of the helicopter crews, etc. Personnel should take into consideration the size of the boats, motors, and associated equipment in addition to the crew when requesting helicopter resources. The helicopter crew chief shall dictate the securing of boats and equipment.

Companion Animal Rescue

The rescue of “companion animals” has long been a factor in the successful evacuation and rescue of victims in flood emergencies and disasters. Some people simply will not self-evacuate with no means for taking their companion animals, and they may resist rescue if their companion animals are not accommodated. This creates additional complications for rescuers that may be relieved by determining early that companion animals will be rescued where feasible, and that any companion animals forced by conditions to be left behind will be the focus of appropriate follow-up actions (i.e., rescue when conditions allow).

On 10/6/2006, the Robert T. Stafford Disaster Relief and Emergency Assistance act was amended to include the Pet Evacuation and Transportation standards act (PETS). PETS requires responders to consider pet owners, household pets and service animals when engaging in emergency operations. This act does not apply to horses, cattle, or any livestock, but public safety personnel should report conditions where those animals also may be in need of rescue or support, so appropriate measures can be taken to save those that can be located and evacuated from flood zones (or so they can be fed and sheltered in placed until flood conditions de-escalate).

Use caution when transporting animals on boats or in rotorcraft. If possible, secure the safety of humans first, and if necessary return for animals, in accordance with the PETS amendment of the Stafford Act. Precautions should be taken to protect the survivors and rescuers from adverse actions by any animal taken on board a boat during rescue operations. Consider the use of muzzles and restraints. Rescuers must communicate with personnel at designated collection points the number, size and condition of animals being rescued, so that appropriate accommodations may be made for their care and evacuation.

Hazardous Materials & Decontamination for Water Environment

Water operations may include working in bodies of water contaminated with hazardous substances or microorganisms harmful to humans and canines. Water Rescue Teams shall have the ability to decontaminate all personnel, canines, PPE, boats, trailers, and

water operations cache equipment following operations in contaminated water environments.

Waters may contain various chemical and biological waste products. This may be the result of saturated ground, the overwhelming of sewage and septic systems, or industrial run-off. Potential contamination is always a consideration when entering floodwaters; therefore, all appropriate PPE, will be used. Decontamination (Decon) should be performed after each entry. Completion of exposure reports is recommended for all entries into floodwaters.

Decontamination

Personnel

After exiting the water, even for short periods during the operational period, members should go through a Decon* wash with soap and clean water.

All members are required to wash hands before entering vehicles and eating areas. Hand washing is essential to reduce secondary contamination.

Water samples should be taken for testing from areas entered by the team. All personnel exposed to the contaminates should be monitored following any exposure.

Hazardous Materials / Biological Hazards

The following is a list of common illnesses associated with exposure to flood waters:

- Gastrointestinal illnesses following ingestion of contaminated water or food
- Infectious hepatitis or aseptic meningitis from viruses in sewage contaminated water
- Leptospirosis following exposure to flood waters contaminated by animal urine
- Intestinal bacteria such as: E. Coli, Salmonella, Shigella, Hepatitis A Virus, and agents of typhoid, paratyphoid, and tetanus

Equipment

When contaminated, equipment should be decontaminated per manufacturer recommendation or as recommended by on-scene Hazardous Materials personnel.

Table 1 – Swiftwater/Flood Search and Rescue Team Skills

The following skills are required for FIRESCOPE-typed SF/S&R Teams (see Chapter 4: Position Descriptions and Training Requirements). A number indicates the minimum number of members on the team with indicated skills. “X” indicates required skills for all team members.

*Table 1 Swiftwater/Flood Search and Rescue Team (X=required for all Team Personnel, * = optional item)*

Swiftwater/Flood Search & Rescue Team	Type 1	Type 2	Type 3	FEB
Animal Rescue Technician	2	0	0	1
Communications (Radios)	1			
EMS-ALS Capability	2			
EMS-BLS Capability	X	X	X	X
Hazardous Materials Training for First Responders (FRO)	X	X	X	X
Helicopter/Aquatic Rescue Operations Training*	4	2		
Helicopter Operations Awareness Training	X	X	X	
Motorized Boat Operator	4	3	2	2
Rope Rescue Technician	X	X	X	
Public Safety Diver Certified*	4*			

***All team personnel trained to the NFPA standard of River and Flood Technician level*

Table 2 - Swiftwater/Flood Search and Rescue Resource Typing

Table 2 Swiftwater / Flood Search and Rescue Resource Typing

Type	Type 1	Type 2	Type 3
Capabilities	S&R Operations Motorized Boat Operations Helicopter/Aquatic Rescue Operations (4*) Rope Rescue Technician Hazmat FRO Animal Rescue Technician ALS (2) Radios Helicopter-based operations Self-sufficient 24-hours	S&R Operations Motorized Boat Operations Helicopter/Aquatic Rescue Operations (2*) Rope Rescue Technician Hazmat FRO BLS Radios Helicopter -based operations Self-sufficient 24-hours	S&R Operations Motorized Boat Operations Rope Rescue Technician Hazmat FRO BLS Radios Self-sufficient 24-hours

Table 3 – Swiftwater/Flood Search and Rescue Organization Table

Table 3 Swiftwater / Flood Search and Rescue Organization Table

Resource	Component	Type 1 *Meets requirements for Mission Ready Package	Type 2	Type 3
Swiftwater/ Flood Search and Rescue Team	Equipment	Type 1 Inventory	Type 2 Inventory	Type 3 Inventory
	Personnel	16 Member Team: 2 Team Leader *4 Boat Operators* *4 Boat Bowman* *2 Animal Rescue Technician* *1 Logistics Specialist skill set* *1 Communications Specialist skill set* *2 Swiftwater Technicians*	12 Member Team: *2 Team Leader* *3 Boat Operators* *3 Boat Bowman* *1 Logistics Specialist skill set* *3 Swiftwater Technicians*	6 Member Team: *1 Team Leader* *2 Boat Operators* *2 Boat Bowman* *1 Swiftwater Technicians*
	Transportation	Transportation Equipment trailer Personnel transport vehicles	*	*

**Requests should include vehicle capabilities when necessary (i.e., four-wheel drive).*
***All team personnel trained to the NFPA standard of River and Flood Technician level*

Table 4 - Flood Evacuation Boat Typing

Table 4 Flood Evacuation Boat Typing (Order these resources by type, hull design, and power type if critical)

Type		Type 1	Type 2	Type 3	Type 4	Type 5
Minimum Victim Transport per Trip		5+	3 – 5	3	2	2
Special Needs and Notes		May need launch ramp Power Boat	May need launch ramp Power Boat	Hand Launch Power Boat	Hand Launch 2 Personal Watercraft (PWC)	Hand Launch No Motor
Flood Evacuation Boat	Equipment	FEB Inventory	FEB Inventory	FEB Inventory	FEB Inventory	FEB Inventory
	Minimum Personnel	2	2	2	2	2
	Transportation	*	*	*	*	*

*Requests should include vehicle capabilities when necessary (i.e., four-wheel drive).
***AI team personnel trained to the NFPA standard of River and Flood Technician level.*I
** For further details refer to the Minimum Equipment List (Appendix A)

Boat-Based SF/S&R Staffing & Personnel Configuration:

Team consideration should be made for personnel that are cross-trained in water operations and the following disciplines.

- Logistics
- Medical
- Search
- Hazardous materials
- Safety
- Communications

These standards require a minimum of two qualified Boat Operators assigned to each boat when a Type1 Swiftwater/Flood Search and Rescue Team is deployed and a minimum of one Boat Operator assigned to each boat when a Type 2 Swiftwater/Flood Search and Rescue Team is deployed (see Swiftwater/Flood Search and Rescue Team Skills Table 1 on page 135.

The minimum Personal Protective Equipment (PPE) worn/carried by Team personnel engaging in water operations shall include:

- Personal flotation device (PFD)
- Helmet appropriate for water operations

- Cutting device (knife, scissors, etc.) attached to the PFD
- Whistle
- Locating light (i.e.: strobe, light stick, etc.)
- Throw bags (minimum two per watercraft)
- Personal Waist Throw Bag
- Footwear appropriate to conditions and operations
- Respiratory protection when conditions warrant
- Eye protection when conditions warrant
- Appropriate gloves
- Thermal protection
- Contamination protection (dry suit) as conditions dictates
- Headlamp and other lighting appropriate for inclement weather and/or low light conditions.

Boat-Based (Waterborne) Water Operations

Review strategic and tactical objectives, launch point and potential exit points, communications plan including hand signals, emergency protocols, medical plan, etc.:

- All passengers/survivors shall properly don a PFD and helmet
- A minimum of 4 spare helmets and PFDs should be carried anytime survivors may be encountered
- Anyone entering the water shall wear a dry suit or hip waders that provide contamination protection
- The depth of the water shall be assessed prior to entry
- Ensure that Team and Boat capabilities are adequate for conditions encountered
- All boats shall have radio communications with land-based Team members Boat Teams need to be prepared for extenuating developments such as combative animals.
- Team members should be aware of conditions that produce heat stress, dehydration, hyper and hypothermia

Safe Boating Operations

- Operation of boat should be in accordance with boat manufacturers' recommended specifications and boat operations training
- Rescuers should provide downstream safety
- It is recommended that Teams operate in tandem when possible
- Special consideration should be used with flat bottom boats as they can become unstable in moving water
- Boats used in night operations shall have appropriate navigational lights.
- Personnel should monitor weather and "sea-state" conditions to assist in decision making for limited use of boats

Launch Operations

During urban flooding situations, alternative boat launch locations may be needed. Teams may need to utilize flooded roadways, ramps and, bridge approaches as launch ramps. Partnering with local or military assets may prove valuable as they have high clearance vehicles to transport over areas that are too shallow for launch of a boat. When the water is too deep for high water vehicles, then the boat can be launched from the cargo area. Any launch area should be evaluated for the possibility of being unusable due to high or low water conditions/hazards.

Plan for alternate launch/recovery sites due to changes in water levels.

Deployment by Ground

Ensure that appropriate equipment such as ratchet straps, chains; binders, etc. are provided to tie down boats and equipment. All Teams should have appropriate travel plans in place prior to deployment.

Deployment by Air

Configure the SF/S&R Team equipment cache to be deployed by air, including proper packaging and required shipping documentation (i.e. hazardous materials packaging and labeling, etc). Vehicles and trailers to be air-transported should be pre-certified as such when feasible. A best practice is to conduct joint training and exercises with an affiliated airlift facility to ensure that vehicles, trailers, and water operations equipment cache are ready to be deployed by air. Appropriate equipment such as ratchet straps, chains; binders, etc. are provided to tie down boats and equipment into and/or onto boat and/or support trailers.

Training

- Swiftwater/Flood Search and Rescue Technician and Swiftwater/Flood Search and Rescue Technician – Boat Operator training shall be consistent with NFPA 1006: Professional Qualifications of the Technical Rescuer
  - Chapter 16, Surface Water Rescue Technician
  - Chapter 17, Swiftwater Rescue Technician
  - Chapter 21, Watercraft Rescue Technician
  - Chapter 22, Floodwater Rescue Technician

Chapter 13: Incident Support Team Roles and Responsibilities

This chapter provides a description and duties of the Urban Search and Rescue (US&R) Incident Support Team (IST).

This description details the methods of operation, organization, position descriptions, administrative and general guidelines for IST members, and their integration into a federal response.

The IST is designed to supply a group of highly qualified specialists readily available to mobilize within two hours of an activation and deploy to carry out the IST mission statement. IST members are self-sufficient for at least 24 hours and prepared for a response assignment of up to 14 days. The IST is supported by FEMA with equipment caches dispatched upon deployment. FEMA maintains three separate IST equipment caches containing communications equipment, computers, printers, office supplies, food, water, tents, limited medical supplies, and vehicles to support an IST.

The IST provides Federal, State, and Local officials with technical assistance in the acquisition and utilization of ESF #9 resources through advice, Incident Command assistance, management, coordination, and logistical support of National US&R Response System resources. Based on the needs of the affected State, IST activation could occur prior to a confirmed need to the alert and activation of other System resources.

A FEMA US&R IST coordinates the arrival of System resources. The IST can provide overhead management and logistical support to the resources while on deployment if the appropriate ICS organization is not in place. If an ICS organization is in place, the IST will integrate into that structure and any operational System resources will work within the local incident command structure.

Upon activation by FEMA Headquarters and under direction of the IST Leader, the IST rapidly responds to an impending incident or one that has just occurred and assesses the need for and potential use of System, or other, resources.

Incident Support Team Advanced

The initial element of the IST, referred to as the Advanced IST, represents FEMA's initial efforts to establish on-site management and support for anticipated or actual arrival of one or more System resources at a disaster or pre-planned event. The Advanced IST is composed of 14 positions and 15 personnel. The Advanced IST will be deployed when the expected scope and complexity of the mission are not yet known, such as a weather related standby, or if a full IST is not required at the time of activation.

The IST-Advanced is made up of:

1-Federal US&R Officer (ESF #9 Group Supervisor)
1-IST Leader
1-IST Safety Officer
2-IST Liaison Officers
1-IST Medical Officer
1-Operations Section Chief
1-Aviation Branch Director
1-Planning Section Chief
1-IST Situation Unit Leader
1-IST Logistics Section Chief
1-IST Communications Unit Leader
1-IST Ground Support Unit Leader
1-IST POA/Mobilization Center Specialist
1-Federal Contracting Officer

Full Incident Support Team (IST)

As the scope of the disaster is realized or the IST becomes operationally involved in the incident, the IST Leader will consult with the AHJ and the FEMA US&R Branch to recommend an expansion of the IST to fill all the IST positions necessary to maintain timely and effective incident management. The Full IST is composed of 20 positions and 32 personnel and is made up of:

2-Federal US&R Officer (ESF #9 Group Supervisor)
2-IST Leader
2-IST Safety Officer
1-IST Public Information Officer
2-IST Liaison Officers-Type 1
2-IST Liaison Officers-Type 2
2-IST Medical Officer
2-IST Operations Section Chief
2-IST Division Supervisors
1-Aviation Branch Director
2-Planning Section Chief
1-IST Situation Unit Leader
1-IST Resource Unit Leader
1-IST Structures Specialist
1-IST Hazardous Materials Specialist
2-IST Logistics Section Chief
2-IST Communications Unit Leader
1-IST Ground Support Unit Leader
1-IST POA/Mobilization Center Specialist
2-Federal Contracting Officer

IST Expanded Team

Dependent upon the scope of the disaster the IST may be expanded to maintain timely and effective incident management. The IST Leader will consult with the AHJ, the FEMA IMAT or Region they are reporting to, the ESF #9 Group Supervisor, and the US&R Branch to recommend an expansion of the IST and request the additional staffing. The Expanded IST may include multiple positions depending on the operational area and complexity of the incident, and the number of Division or Group Supervisors, Liaison Officers, and Field Observers may be increased as needed.

Chapter 14: Resource Quality Assurance and Recertification

Pre-Incident and Post Incident Exercise and Evaluation

Pre or post incident/exercise evaluations can be valuable for conducting future training and to evaluate personnel. This process can be of immense value to individual department members as well as the organization supporting technical rescue resources. Placing emphasis in instituting the lessons learned from Post Incident Analysis and informal critiques will re-enforce safety and efficiency.

Exercises allow personnel to validate training and practice strategic and tactical prevention, protection, and response capabilities in a risk-reduced environment. Exercises are the primary tool for assessing preparedness and identifying areas for improvement, while demonstrating department efforts to prepare for major incidents. Exercises aim to help the department gain objective assessments of its capabilities so that gaps, deficiencies, and vulnerabilities can be addressed prior to a real incident.

The evaluated exercise is capabilities and performance based and provides a standardized policy, methodology, and terminology for exercise design, development, conduct, evaluation, and improvement planning.

In accordance with Homeland Security Presidential Directive 8 (HSPD-8) and the National Preparedness Goal, technical rescue resources should use a capabilities-based approach to individual exercises and exercise program management.

Foundation

The following activities must be accomplished to provide the foundation for an effective exercise:

1. Create a base of support (i.e., establish buy-in from the appropriate command personnel).
2. Develop a project management timeline and establish milestones.
3. Identify an exercise planning team.
4. Schedule planning conferences.

Design and Development

Building on the exercise foundation, the design and development process focuses on identifying:

1. Objectives
2. Designing the scenario
3. Creating documentation
4. Coordinating logistics
5. Selecting an evaluation and improvement methodology.

Conduct

After the design and development steps are complete, the exercise takes place. Exercise conduct steps include setup, briefings, facilitation/control/evaluation, and wrap-up activities.

Evaluation

The evaluation phase for all exercises includes:

1. A formal exercise evaluation,
2. An integrated analysis and
3. An After-Action Report that identifies strengths and areas for improvement in an entity's preparedness, as observed during the exercise.

Improvement Planning

During improvement planning, the corrective actions identified in the evaluation phase are assigned, with due dates, to responsible parties; tracked to implementation; and then validated during subsequent exercises.

Corrective Action

After an exercise or major incident, an evaluation produces an After-Action Report (AAR), which defines specific corrective actions that should be taken to remedy issues observed during an incident or exercise evaluation. An AAR assigns all corrective actions to a responsible person, division, or bureau, and includes incremental benchmarks and deadlines for completion. An AAR is a requirement if the exercise is federally or state grant funded (Ref. Homeland Security Exercise and Evaluation Program).

Identifying Exercise Stakeholders

1. Exercise managers should identify stakeholders as possible and seek to create a database, cataloging stakeholder points of contact (POCs). This database lists each POC's contact information, areas of expertise, and prior exercise experience.
2. When identifying stakeholders, exercise managers should consider individuals who would be involved in an actual incident or event, including:

a. Individuals with administrative responsibility relevant to exercise
b. Representatives from all disciplines to be included in exercises
c. Representatives from important private sector entities
d. Federal, State, local, private, and non-government officials who impact or are affected by exercise activities.

Exercise Types

The type of exercise that best meets a specific goal requirement is identified through analysis of the capabilities that a resource is attempting to validate; the incident lessons learned and the training and exercises that has already been conducted; and the resources available for exercise planning, conduct, and evaluation.

Discussion-Based Exercises

Discussion-based exercises are normally used as a starting point in the building-block approach of escalating exercise complexity. Discussion-based exercises include seminars, workshops, and tabletop exercises (TTXs).

These types of exercises typically highlight existing plans, policies, interagency/inter-jurisdictional agreements, and procedures. Discussion-based exercises are valuable tools for familiarizing personnel with current or expected capabilities. Discussion-based exercises typically focus on strategic, policy-oriented issues.

Tabletop Exercises (TTX)

TTXs involve key personnel discussing hypothetical scenarios in an informal setting. This type of exercise can be used to assess plans, policies, and procedures or to assess the systems needed to guide the response to a defined incident. TTXs typically are aimed at facilitating understanding of concepts, identifying strengths and shortfalls, and achieving changes in the approach to a particular situation.

Participants are encouraged to discuss issues in depth and develop decisions through slow-paced problem solving, rather than the rapid, spontaneous decision making that occurs under actual or simulated emergency conditions. The effectiveness of a TTX is derived from the energetic involvement of participants and their assessment of recommended revisions to current policies, procedures, and plans.

Operations-Based Exercises

Operations-based exercises represent the next level of the exercise cycle. They are used to validate the plans, policies, agreements, and procedures solidified in discussion-based exercises. Operations-based exercises include drills, functional exercises (FEs), and full-scale exercises (FSEs). They can clarify roles and responsibilities, identify gaps in resources needed to implement plans and procedures, and improve individual and team performance.

Operations-based exercises are characterized by actual reaction to simulated intelligence; response to emergency conditions; mobilization of apparatus, resources, and/or networks; and commitment of personnel, usually over an extended period.

Drills

A drill is a coordinated, supervised activity usually employed to validate a single, specific operation or function in a single agency or organizational entity. Drills are commonly used to provide training on new equipment, develop or validate new policies or procedures, or practice and maintain current skills. Typical attributes of drills include: a narrow focus, measured against established standards; immediate feedback; a realistic environment; and performance in isolation.

Functional Exercises (FE)

An FE is designed to validate and evaluate individual capabilities, multiple functions, activities within a function, or interdependent groups of functions. Events are projected through an exercise scenario with event updates that drive activity. An FE simulates the reality of operations in a functional area by presenting complex and realistic problems that require rapid and effective responses by trained personnel in a highly stressful, time-constrained environment.

Full-Scale Exercises (FSE)

The FSE is the most complex type of exercise. FSEs are typically multi-agency and multi- organizational exercises that validate many areas of preparedness. They focus on implementing and analyzing the plans, policies, procedures, and cooperative agreements developed in discussion-based exercises and hone previous, smaller, operations-based exercises.

During FSEs, events are projected through a scripted exercise scenario with built-in flexibility to allow updates to drive activity. FSEs are conducted in real time, creating a stressful, time-constrained environment that closely mirrors real events. The level of support needed to conduct an FSE is greater than that needed during other types of exercises.

FSEs include operating under the principles of the ICS system to respond to an incident effectively and efficiently. Personnel and resources are mobilized and deployed to the scene where they conduct their activities as if a real incident had occurred (with minor exceptions). An FSE also may include functional play from participants not located at the exercise incident response site, such as multi-agency coordination centers (MACCs), EOCs, or hospitals.

Exercise Planning Team

The exercise planning team is responsible for the successful execution of all aspects of an exercise, including exercise planning, conduct, and evaluation. The planning team determines exercise objectives; tailors the scenario to the needs; and develops documents used in exercise simulation, control, and evaluation. While each exercise has its own planning team, personnel may carry over from one exercise to the next, and it may be advantageous to include team members with previous exercise planning experience.

The exercise planning team should seek to incorporate representatives from each major participating entity but should be kept to a manageable size. The membership of an exercise planning team can be modified to fit the type or scope of an exercise. The team can most effectively be structured using Incident Command System (ICS) principles. The team's project management should clearly define roles and responsibilities and a manageable span of control.

Planning team members also help develop and distribute pre-exercise materials and conduct exercise briefings and training sessions. Due to this elevated level of involvement, planning team members are ideal selections for facilitator, controller, and/or evaluator positions during the exercise.

However, the advanced scenario and events knowledge gained by exercise planning team members renders them ineligible to participate in the exercise as players. Planning team members should not release scenario-related information to players prior to an exercise.

Capabilities, Tasks, and Objectives

Exercise capabilities, tasks, and objectives are key to design and development. The planning team must consider all the capabilities being evaluated. Each capability has specific tasks associated with it that should be performed and validated during the exercise.

Well-defined objectives provide a framework for scenario development, guide objective development, create evaluation criteria, and synchronize various agencies' efforts towards common goals to prevent duplication of effort and focus support on exercise priorities.

Use of objectives that are simple, measurable, achievable, realistic, and task-oriented (SMART). Exercise planners should limit the number of exercise objectives to enable timely execution and to facilitate design of a realistic scenario.

Scenario

A scenario provides the storyline that drives an exercise.

The first step in designing a scenario is determining the type of threat/hazard (e.g., chemical, explosive, natural disaster) to be used in an exercise. The hazards selected for an exercise should realistically stress the resources an entity is attempting to improve through the exercise. The scenario should also be a realistic representation of potential threats and hazards faced by the resource being evaluated.

The next step in designing a scenario is to determine the venue (i.e., facility or site) in which exercise will take place. Venue selection should reflect the hazard selected, allowing for realistic, exercise-based simulation of the hazard.

Documentation

The list below briefly describes the important document types associated with most exercises.

1. A **Situation Report** is a participant report for discussion-based exercises, particularly TTXs. It provides background information on exercise scope, schedule, and objectives. It also presents the scenario narrative that will drive participant discussions during the exercise.

2. An **Exercise Plan** typically used for operations-based exercises, provides an exercise synopsis, and is published and distributed to players and observers prior to the start of the exercise. The Exercise Plan gives objectives and scope and assigns roles and responsibilities that must be carried out for successful exercise execution.

3. A **Controller and Evaluator** supplements for the Exercise Plan, containing more detailed information about the exercise scenario and describing exercise controllers' and evaluators' roles and responsibilities. Because the Controller & Evaluator Section contains information on the scenario and exercise administration, it is distributed only to those individuals specifically designated as controllers or evaluators.

4. A **Scenario Event Timeline** is a chronological order of expected actions and scripted events (i.e., injects) to be inserted into exercise play by controllers to generate or prompt player activity. It ensures necessary events happen so that all exercise objectives are met.

5. A **Player Handout** is a 1–2-page document, usually handed out the same day of an operations-based exercise provides a quick reference for exercise players on safety procedures, logistical considerations, exercise schedule, and other essential information.

6. **Exercise Evaluators Guidelines (EEG)'s** help evaluators collect and interpret relevant exercise observations. EEGs provide evaluators with information on what tasks they should expect to see accomplished or discussed during an exercise, space to record observations, and questions to address after the exercise as a first step in the analysis process and development of the After-Action Report. EEGs are not report cards—rather, they are intended to guide an evaluator's observations so that the evaluator focuses on capabilities and tasks relevant to exercise objectives to support development of the AAR.

    - Exercise **policies** are implemented to prevent or, at a minimum, mitigate the impact of an action that may cause bodily harm to participants, destruction of property.

7. **Logistical** details are important (but often overlooked) aspects of an exercise. They can make the difference between a smooth, seamless exercise and one that is confusing and ineffective. Discussion- based exercises require attention to logistical details, such as the availability of appropriately sized and comfortable meeting and briefing rooms, food and refreshments, audiovisual equipment, facilitation and note-taking supplies, badges and table tents, registration assistance, and direction signs.

    Operations-based exercises require badge/role identification, access to restrooms, food and water, on-site communications, arrangement of videotaping, props, site security, adherence to the weapons check policy, and observation of safety precautions.

Exercise Conduct

After design and development activities are complete, the exercise takes place. Prominent steps in exercise conduct include setup; briefings; management of facilitators, controllers, evaluators, players, and actors; and wrap-up activities.

Setup

1. The exercise planning team should visit the exercise site at least 1 day prior to the event to set up the site. On the day of the exercise, planning team members should arrive several hours before the scheduled start to handle any remaining logistical or administrative items pertaining to setup and to arrange for registration.

2. For a discussion-based exercise, room layout is particularly important. When setting up an operations-based exercise, planners must consider the assembly area, response route, response operations area, parking, registration, observer/media accommodations, and a possible Simulation Cell (Green Cell) facility.

3. Restrooms and water must be available to all participants, observers, and actors.

4. All individuals permitted at the exercise site must wear some form of identification.

5. Perimeter security and site safety during setup and conduct are essential.

Presentations/Briefings

Presentations and briefings are important tools for delivering necessary exercise-related information to participants.

A discussion-based exercise generally includes a multimedia presentation to present the scenario.

An operations-based exercise may include briefings for controllers/evaluators, actors, players, and observers/media. Briefings and presentations are opportune times to distribute exercise documentation, provide necessary instructions and administrative information, and answer any outstanding questions.

Personnel

In both discussion-based and operations-based exercises, **facilitators,** and **controllers** guide exercise play. During a discussion-based exercise, the facilitator is responsible for ensuring that participant discussions remain focused on the exercise objectives and making sure all issues and objectives are explored as thoroughly as possible within the available time.

In an operations-based exercise, controllers plan and manage exercise play, set up and operate the exercise incident site, give key data to players, and may prompt or initiate certain player actions.

All controllers are accountable to one senior controller.

Evaluators are selected from participating agencies to evaluate and comment on designated functional areas of the exercise. Evaluators are chosen based on their expertise in the functional areas they evaluate. Evaluators have a passive role in the exercise and should only record the actions/decisions of players; they should not interfere with exercise flow. Evaluators use EEGs to record observations and notes.

Players have an active role in responding to an incident by either discussing (in a discussion-based exercise) or performing (in an operations-based exercise) their regular roles and responsibilities.

Actors are volunteers who simulate specific roles, such as disaster casualty victims, to add realism to an exercise.

Simulators, generally controllers, perform the roles of individuals, agencies, or organizations that are not actually participating in the exercise to drive realistic exercise play.

Evaluation

Evaluation is key to exercises; it documents strengths and areas for improvement in the participant's preparedness. The analytical outputs of the evaluation phase feed improvement-planning activities.

Hot Wash and Debrief

Both hot washes (for exercise players) and debriefs (for facilitators, or controllers and evaluators) follow discussion- and operations-based exercises.

A hot wash is conducted in each functional area by that functional area's controller or evaluator immediately following an exercise, and it allows players the opportunity to provide immediate feedback. A hot wash enables controllers and evaluators to capture events while they remain fresh in players' minds to ascertain players' level of satisfaction with the exercise and identify any issues, concerns, or proposed improvements. The information gathered during a hot wash can be used during the AAR.

A debrief is a more formal forum for planners, facilitators, controllers, and evaluators to review and provide feedback on the exercise. It may be held immediately after or within a few days following the exercise.

The exercise planning team leader facilitates discussion and allows each person an opportunity to provide an overview of the functional area observed. Discussions are recorded and identified strengths and areas for improvement are analyzed for inclusion in the AAR.

After Action Report / Improvement Plan

An AAR is used to provide feedback to the Department on its performance during the exercise. The AAR summarizes exercise events and analyzes performance of the tasks identified as important during the planning process. It also evaluates achievement of the selected exercise objectives and demonstration of the overall capabilities being validated.

To prepare the AAR, exercise evaluators analyze data collected from the hot wash, debrief, EEGs, and other sources (e.g., plans, procedures) and compare actual results with the intended outcome. The level of detail in an AAR is based on the exercise type and scope.

AAR conclusions are discussed and validated at an After-Action Conference that occurs within several weeks after the exercise is conducted.

Improvement Planning

During improvement planning, corrective actions from the AAR—such as additional training, planning, and/or equipment acquisition—are assigned, with due dates, to responsible parties. They are then tracked to completion, ensuring that exercises result in tangible benefits to preparedness.

Improvement Plan

The IP portion of an AAR converts lessons learned from the exercise into concrete, measurable steps that result in improved response capabilities. It specifically details the actions that the Department should take to address each recommendation presented in the draft AAR, who or what division is responsible for taking the action, and the timeline for completion.

Improvement Tracking and Planning

Once recommendations, corrective actions, responsibilities, and due dates are clearly identified in the AAR, the Training Division and Operations Bureau ensures that each corrective action is tracked to completion.

Continual AAR tracking and implementation should be part of a corrective action program. A corrective action program ensures AAR are living, breathing documents that are continually monitored and implemented, and that they are part of the larger cycle of improving preparedness.

Conclusions

The “Conclusions” section of the report should be used as a summary of all the sections of the AAR. It should include the following:

- *Participants demonstrated capabilities*
- *Lessons learned for improvement and major recommendations*
- *A summary of what steps should be taken to ensure that the concluding results will help to further refine plans, procedures, training for this type of incident.*

Recertification

Cal OES typed resources should submit copies of exercise AAR's to their respective Cal OES Operational Area Coordinator periodically and/or as directed by the individual Area Coordinator. All California FEMA US&R Task Forces shall be evaluated every five (5) years. Evaluations for California FEMA Task Forces shall follow established evaluation guidelines according to FEMA. Copies of evaluations should be provided to Cal OES thru established procedures.
All California Regional US&R Task Forces shall be evaluated every 5 years. Task Force evaluation exercises will be scenario based and should exercise a wide range of performance expectations, including but not limited to:

- Ability to effectively mobilize in a reasonable timeframe; 45 minutes for Regional US&R Task Forces
- Provide appropriate level of vehicle and logistical support to function as a Task Force
- Ability to effectively mitigate rescue problems encountered
- Ability to provide for safe, effective operations overall

The Regional US&R Task Force Working Group will provide qualified evaluators for Regional US&R Task Force exercises and will set evaluation levels and expectations. Evaluation reports will be provided to the Cal OES Agency Representative for the Task Forces corresponding Operational Area.

Chapter 15: After Action Review Process

Post-Incident Review

A formal After-Action Review (AAR) shall be conducted in the following instances:

- Large commitment of technical rescue resources.
- Any incident in which there is a good opportunity to collect valuable lessons learned and deemed appropriate by the responding agency(s).
- At the request of Cal OES.

The individual agency(s) initiating the AAR should notify their respective Cal OES Agency Rep. The appropriate resource command supervisor, company officers participating at the incident shall complete a basic synopsis of the incident as soon as possible, by no longer than 24 hours after the incident. The completed AAR synopsis shall be faxed or emailed to the Cal OES Agency Rep as soon as possible, but no longer than 72 hours after the incident.

Post-incident critics of major and significant incidents provide an opportunity to review the effectiveness of actions and procedures in their applications during actual incidents. It is also an opportunity to review the overall quality of the services provided to the customers at the incident. This review is extremely valuable in improving procedures and incident operations.

Informal Incident Critique

The resource supervisor(s) may conduct an informal incident critique, as they deem necessary. The critique is an opportunity for open discussion amongst supervisor personnel from host or outside agencies, stakeholder, or all involved personnel. The informal critique may serve as a fact-finding opportunity if a After Action Review will be performed or it may just be a facilitated discussion.

After Action Review

An After-Action Review should be conducted on incidents where formal lessons learned, and recommended improvements are made, and a formal document is produced. Operational PIA's are for an incident **not** involving a fatality or an incident involving a large commitment of resources.

The resource performing the AAR should follow the format below:

*AAR should be limited to a maximum of 1 to 1 ½ hours in duration if possible.

1. Introduction
2. General introduction to the incident
3. Unique circumstances/problems, etc.
4. Review Tactical Preplan Information
5. Building Structure/Site Layout
6. Review type of structure, and post-incident structure analysis, or incident site layout.
7. Dispatch and Response
8. Play tapes of reporting, dispatch, on scene reports, if available
9. Analyze dispatch, on scene reports
10. Was dispatch appropriate for nature of reports?
11. Site Operations

Analyze integrity of building(s), trench, excavation, space and/or environment based on arrival, at 10 minutes, at 20 minutes, 30 minutes, 2 hours, 6 hours, 12 hours

1. Review size-up decisions by commanders
2. Review strategy/action plan
3. Review offensive/defensive decisions by commanders
4. Review risk analysis applied to the incident
5. Review division operations
6. Review heavy equipment & rigging placement
7. Review entry point decision
8. Review nighttime and interior lighting operations

Search Operations

1. Review reconnaissance operations
2. Review Hasty Search operations
3. Review Primary search operations
4. Review Secondary Low Coverage Search Operations
5. Review Secondary High Coverage Search Operations
6. Review Special Response Team (search) Operations
7. Were all victims located? If no, why not?

Rescue Group/Division/Operations

1. Review group/rescue activities
2. Review apparatus positioning
3. Review search plan
4. Review rescue plan
5. Review equipment selection decisions
6. Discuss problems encountered

Staging

1. Review base of operations set up
2. Equipment cache
3. Sleeping location
4. Decon set up
5. Command location
6. Briefing area
7. Overall Location adequacy
8. Communications
9. Site Access

Communications

1. Review dispatch and deployment functions during incident
2. Review the communication process
3. Did commanders receive adequate, accurate and timely information?
4. Did commanders effectively communicate their plan, objectives and other information to divisions, groups, and companies?
5. Did division/group commanders communicate plans, objectives, and other information to companies?

Support Functions

1. Review rehab operations
2. Review equipment/apparatus failures, repairs
3. Review logistical and equipment supply
4. Lumber
5. Tools
6. Fuel

Safety

1. Discuss safety aspects of the incident
2. Review injuries, causes, etc.
3. Review corrective actions

Accountability

1. Discuss incident accountability
2. Credentialing process (by who, how secure, necessary?)
3. Determine if accountability was accurate
4. Were accountability locations easily identified
5. Where accountability officers assigned, describe accountability operations, problems
6. Accountability Benchmarks