



WHITE PAPER

October 5, 2022

TO: FIRESCOPE Board of Directors
23300 Castle Street
Riverside, CA 92518-2200

FROM: FIRESCOPE Operations Team, Task Force, and Technical Search and Rescue Subcommittee

SUBJECT: Technical Search and Rescue OSD Revision and Cost Estimate

REQUESTED ACTION: The FIRESCOPE Technical Search and Rescue Subcommittee¹ and Task Force, respectively request the FIRESCOPE Operations Team to review and approve ICS-162: Technical Search and Rescue Operating System Description (OSD), the significant revisions/additions, and cost estimates of which are outlined in this White Paper.

APPROVAL: The FIRESCOPE Board of Directors approved the requested action on October 6, 2022.

SUMMARY

Based on leaders' intent from the FIRESCOPE BoD to merge technical search & rescue-related OSD's, the ICS-162 (Technical Search and Rescue Incident Operating System Description) was developed in a multi-year project by the FIRESCOPE Technical Search & Rescue Subcommittee. ICS-162 replaces the existing related OSD's (ICS-120-1, ICS-120-2², and ICS-020-1, which were seminal to the development and implementation of California's Urban Search & Rescue and Swiftwater-Flood Search & Rescue systems.

Project goals for the ICS-162 included updating and describing the requirements for the California Fire & Rescue Service technical search and rescue system and its many statewide resources in a scalable, "living" Operational System Description. Included in ICS-162 are minimum equipment and training requirements, resource typing standards, and an overview of how and when these resources may be ordered, assigned, and used. A feature of this "scalable" OSD approach is the inclusion of functions of the technical rescue discipline that have not been previously included in the OSD. For example, the ICS-162 describes Rapid Extrication Module Support (REMS) operations, previously approved by the BoD, but now included in ICS-162. REMS has proven to be a successful technical search and rescue function of the California Fire

¹ The FIRESCOPE Urban Search & Rescue Specialist Working Group requested and was approved for a name change in 2017, with the resulting designation FIRESCOPE Technical Search & Rescue Subcommittee. The subcommittee falls under the Special Operations Specialist Group, which reports to the FIRESCOPE Special Operations Specialist Group. This name change reflects the comprehensive nature of the varied technical search and rescue disciplines and challenges faced by emergency responders here in California.

² Also is cited as the Swiftwater-Flood Search & Rescue Annex to the California Law Enforcement SAR Plan.



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Service in association with the increased frequency of destructive wildfires experienced within the state. Another example is the work in concept or in progress that will result in future augmentations to ICS-162. These recognize and standardize specialized technical search & rescue duties being conducted by California Fire Service agencies. Examples of this include rope access and tower rescue, large animal technical rescue, and mud and debris flow, etc.

The ICS-162 is an effective tool for Fire Chiefs, program managers, and administrators to develop or revise standard operating guidelines and/or procedures, and to budget for and support the operational capability best-suited for the communities they serve. It better describes the California Regional Urban Search and Rescue Task Forces, the California/FEMA Urban Search and Rescue Task Forces, and concepts of operation for both resource types in California.

FINDINGS

1. The FIRESCOPE ICS 120-1 traditionally focused on urban search and rescue operations.
2. The FIRESCOPE 120-1 supplied awareness-level descriptions of typed resources and their usage. More explanation is needed.
3. ICS 120-2 and ICS 020-1 were in need up updating to reflect recent innovations and nationally recognized standards.
4. While the OSD's addressed resource types and capabilities, defined minimum equipment standards and lists, supplied definitions of building construction, and included a glossary of terms, personnel training standards and position requirements needed inclusion and updating.
5. The current OSD's do not sufficiently illustrate practical application of when or where to request resources, and where they fit in the context of emergency incidents and disaster response.

KEY ADJUSTMENTS

1. California Regional US&R Task Forces (RTF's): Positions updated from 29 to 30.
 - a. Addition of Planning Team Manager positions and removal of Canine Search positions³
 - Required training:
 - Complete all General Training requirements (e.g., fulfills all base rescue courses – ICS 162 p.18, par. 4)
 - Complete ICS-300 Intermediate ICS
 - Complete ICS-400 Advanced ICS

³ This was due to the difficulty experienced by local government fire departments (RTF sponsoring and participating agencies) funding and supporting the Canine Search capabilities without added external support. Currently, when RTF's are deployed and require Canine Search capabilities, they are augmented by request for "US&R Mission-Ready Package-Canine", a solution that has been used on multiple occasions in recent years.



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- FEMA US&R Plans Team Manager Course or equivalent (Plans Section Chief- L962)
- Recommended training:
 - Complete FEMA National US&R Task Force Leaders course or equivalent
 - Large Area Search Course
 - Complete O-305: All Hazard Incident Management Training
 - Complete L965 All Hazard Resource Unit Leader course or equivalent
 - Complete L964 All Hazard Situation Unit Leader course or equivalent

NOTE: Base training to become rescue qualified consists of:

- California State Fire Training, Firefighter 1, or equivalent training
- California State Fire Training, Rope Rescue Operations
- California State Fire Training, Structural Collapse Specialist 1
- California State Fire Training, Confined Space Rescue Technician
- California State Fire Training, Structural Collapse Specialist 2
- California State Fire Training, Trench Rescue Technician
- California State Fire Training, Rope Rescue Technician

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

Each course has an estimated cost of \$650-\$1000. Rough cost for base rescue training can vary from \$4000-\$6000 per person.

Required training for the Planning Team Manager position on the California Regional Task Force has an estimated cost of \$300-\$500 per class. Rough cost to meet position qualifications in addition to base rescue training is approximately \$1500.00.

Cost for personal protective equipment varies based on organizational equipment specifications. Rough cost for helmet, BDU's, USAR boots, equipment harness and 72-hour pack are approximately \$2500.00 per person.

2. Swiftwater/Flood Search and Rescue (SW/FSR) Type 1 teams roster updated from 14 to 16 to match NIMS Typing Standards and equivalent to the swiftwater-flood SAR capabilities of the eight California/FEMA US&R Task Forces (each of the 28 US&R Task Forces in the National US&R response System has the equivalent of a Type I Swiftwater/Flood Search & Rescue Team embedded within their US&R Task Force structure).



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- a. The two added positions are SW/FSR technicians.
- b. Approved by FIRESCOPE BOD in April 2021.
 - Required training:
 - Complete all General Training requirements.
 - Complete FEMA GPS Awareness Level course, or equivalent
 - Meet requirements of NFPA 1006 Rescue Technician
 - Complete the required:
 - California State Fire Training, Firefighter 1 or equivalent
 - California State Fire Training, Rope Rescue Operations
 - California State Fire Training, Structural Collapse Specialist 1
 - California State Fire Training, Confined Space Rescue Technician
 - California State Fire Training, Structural Collapse Specialist 2
 - California State Fire Training, Trench Rescue Technician
 - California State Fire Training, Rope Rescue Technician
 - California State Fire Training, River & Flood Rescue Technician

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

- Current Certification as a California Emergency Medical Technician
- 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.
- Annual refresher of related search and rescue skills and abilities in water environments per NFPA 1006
- 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
- GPS and data collection awareness with annual refresher training
- Helicopter Awareness Training
- Every 5 years, Peer Evaluation
 - Evaluation of staffing and requirements for staffing
 - Evaluation of training records
 - Evaluation of required equipment

Each course has an estimated cost of \$650-\$1000. Rough cost for base rescue training can vary from \$4500-\$7000 per person.

Cost for personal protective equipment varies based on organizational equipment specifications. Rough cost for helmet, BDU's, USAR boots,



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equipment harness, 72-hour pack, and water rescue ensemble (helmet, wetsuit, dry suit, etc.) is approximately \$2500-\$5000 per person.

3. Position descriptions and training requirements were added to the document.
4. Chapter added for Rapid Extraction Modules (REMS), which coincides with ICS-223 document.
5. Expanded documentation on California Regional US&R Task Force and its capabilities.
6. Expanded documentation on California FEMA US&R Task Forces and their four main configurations and capabilities.
7. Defined and explained Mission Ready Packages (MRP's) and added appendix with equipment list(s).
8. Added chapter on data collection and search operations.
9. Added chapter for hazardous materials/CBRNE considerations.
10. Combined ICS-120-2 and ICS-020-1 into one updated chapter.
11. Added chapter defining and explaining the FEMA Incident Support Team, and how it may support California FEMA US&R Task Force deployments.
12. Added a chapter on quality assurance and resource recertification.
13. Added a chapter on after-action reporting.
14. Updated the minimum equipment lists (MEL) with no significant change in requirements. Mud and Debris flow PPE and probing equipment was added for Type 1 US&R Companies, California Regional US&R Task Forces, and all four types of SW/FSR teams. Cost varies based on AHJ equipment specification requirements. California FEMA US&R Equipment list was also added with the understanding that the equipment list is based on the national program directive.

RECOMMENDATIONS

1. Approve the updated Technical Search and Rescue OSD, ICS-162.
2. Modify revision cycle from a three-year cycle to continuous (living document).
3. Approve additions or revisions to OSD chapters in conjunction with approval of technical search and rescue ICS documents (e.g., ICS-223: Rapid Extrication Module Support).
4. A chapter describing incident complexity and how typed technical rescue resources can be ordered, assigned⁴, and used.
5. California FEMA US&R Task Force deployment and operations involve both the California Office of Emergency Services Fire and Rescue Division and the FEMA national program office and are recommended for inclusion in operational documentation published by those agencies, not this document.

⁴ Resource deployment and operations protocols exist under the umbrella of California Office of Emergency Services Fire and Rescue Division and within the authorities of the California Emergency Services Act.



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CONCLUSION

The Technical Search and Rescue Subcommittee is committed to supplying best practice recommendations as a subject-matter expert advisory group to the Special Operations Specialist Group, Task Force, Operations Team, and Board of Directors. The subcommittee understands the complexity of technical rescue operations conducted by fire departments and other public safety agencies across the state, ranging from the far north in Del Norte County to the very southeastern tip of the state in Imperial County. Each California Mutual Aid Region and Operational Area has varied resources available in terms of training and operational capability. This document was developed to help organizations of various capabilities, staffing, and budget to supply optimal technical rescue resources to the community they serve. We ask for your support for keeping this as a living document, ensuring it stays up to date with current needs of the state, and in line with industry best practice.

Board of Directors Approved: October 6, 2022