

# Florida Association for Search and Rescue

# Resource Typing for Urban Search and Rescue and Technical Rescue Resources

**July 2016** 

Florida Fire Chiefs' Association 880 Airport Road, Suite 110 Ormond Beach, Florida 32174 Phone (386) 676-2744 - Fax (386) 676-5490 www.ffca.org An Urban Search and Rescue (US&R) Task Force is 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.

## **Overall Function**

An US&R Task Force performs the following functions:

- 1. Conducts search, rescue, recovery, including:
  - a. Wide-area search
- b. Structural collapse assessment, search, rescue, and rigging in light through heavy frame construction, including reinforced concrete
  - c. Associated technical rope rescue (including highlines)
  - d. Confined space search and rescue (permit-required, non-mine, non-cave)
  - e. Trench and excavation rescue
  - f. Mass transportation vehicle rescue (subway, rail, bus, etc.)
  - g. Supporting the transport of service or companion animals with persons rescued
- 2. Coordinate and conduct search and rescue response efforts for all hazards, including locating, accessing, medically stabilizing, and extricating survivors from the damaged structures area
- 3. Operates in environments with and without infrastructure, including compromised access to roadways, utilities, transportation, and limited availability for shelter, food, and water
- 4. Type 1, 2, and 3 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, stillwater/flood water operations, and mass transportation (subway, rail, bus, etc.) rescue
- 5. The Type 1 and Type 2 task force are capable of continuous 24-hour operations which can split into two 12-hour operational period teams, whereas Type 3 is capable of heavy operations for 12-hour operational periods and may be paired with another Type 3 team to form a Type 2 operational component
- 6. Type 4 is capable of limited light to moderate operations in frame and concrete construction, rope rescue, confined space rescue, wide area search
- 7. Not equipped as ambulance service, or to transport humans or animals to shelter or other locations

# **Composition and Ordering Specifications**

- 1. Type 1 and Type 2 Task Forces can operate in two 12 consecutive hour shifts, with ½ the Task Force operating per shift, and Types 3 and 4 Task Forces can operate in one 12 hour shift. All types of US&R Task Forces are self-sustaining for 72 hours and deployable for up to 14 days
- 2. Requestor/Agency Having Jurisdiction (AHJ) and resource provider must address, prior to deployment, certain needs, including:
  - a. Communications beyond the resource's intra-team communications (such as programmable inter-operable communications with command, logistics, military, etc.)
    - b. Type of incident, such as confined space, and terrain, and water conditions
  - c. Type of construction and collapse conditions per US&R definitions of Heavy, Medium, and Light
  - d. 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
  - e. Additional transportation or specific vehicles, boats, trailers, drivers, mechanics, equipment, supplies, and fuel, etc.
    - f. Any additional aviation support, such as helicopter or fixed wing
  - g. Tools, hardware, software, ropes, and survivor evacuation equipment that is beyond what is listed for this resource
  - h. Contaminated environments, and related personal protective equipment (PPE), respiratory protection, clothing, and equipment.
  - i. Logistics support needs for this resource (security and force protection, lodging, transportation, meals, etc.)
  - 3. The requestor must specify if the incident necessitates a Hazardous Materials (HazMat) 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 HazMat and/or CBRNE specific equipment to perform structural collapse operations in an environment requiring Level B PPE for at least 12 hours
  - 4. Task Force relies on local emergency medical infrastructure for patient hand-off 5. 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

RESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Personnel	Per Resource	Total Personnel	70	70	35	22
			NOTES: Not Specified			

	RESOURCE TYP	PES				
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Personnel	Per Resource	Management/Oversight Quantities and Job Titles	Same as Type 2	2 - NIMS Type 1 US&R Task Force Leader (TFL) One US&R TFL may be assigned during an incident as a deputy.	1 - NIMS Type 1 US&R Task Force Leader	1 - National Incident Management System (NIMS) Type 2 US&R Task Force Leader
			NOTES: Not Specified			
Personnel	Per Resource	Operations and Support Functions	Same as Type 2 PLUS: Deploys a CBRNE functional HazMat 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.	Capable of continuous 24hour operations which can split into two 12-hour operational period Task Forces.	Same as Type 4 PLUS: 1.Performs in heavy reinforced masonry structures 2.Performs functions of heavy rigging, structural assessment 3.Capable of performing operations in a stillwater/flood water environment 4.Capable of operating one 12-hour shift	1.Performs in light or medium construction 2.Performs functions of rescue, search, medical, logistics, planning, and safety in structures, including limited operations in hazardous materials (HazMat) or contaminated environments 3.Capable of operating one 12-hour shift
			NOTES: Level B and Level C F (OSHA) 29 Code of Federal Reg		ng regulation Occupational Sa	ety and Health Administration

Personnel Per	Per Resource	Specific Function/Capabilities Safety	Same as Type 2	2 - NIMS Type 1 Safety Officers	Same as Type 4	1 - NIMS Type 1 Safety Officer			
		,	NOTES: Not Specified	NOTES: Not Specified					
Personnel F	Per Resource	Specific Function/Capabilities Search	Same as Type 2	2 - NIMS Type 1 Structural Collapse Search Team Leaders, who are also trained consistently to the level of the NIMS Type 1 Canine Search Specialist Disaster/Structural Collapse Live	1 - NIMS Type 1 Structural Collapse Search Team Leader,who is also trained consistently to the level of the NIMS Type 1 Canine Search Specialist Disaster/Structural Collapse Live	Not Specified			
			NOTES: NIMS Type 1 Structural Collapse Search Team Leader is consistent with the position description for FEMA US&R Search Manager within the National US&R Response System.						

	RESOURCE TYPES	;				
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Personnel	Per Resource	Specific Function/Capabilities Collapse Search Technicians		2 - NIMS Type 1 Structural Collapse Search Technician ructural Collapse Search Technic e Search Specialist within the Nat	ian is consistent with the pos	
Personnel	Per Resource	Specific Function/Capabilities Canine Search	Search Specialist(s), Dis	4 - NIMS Type 1 Canine Search Specialists, Disaster/Structural Collapse - Live with canine  h Specialist(s), Disaster/Structura aster/Structural Collapse - Live or needs of the specific mission.	- Live with canine	
Personnel	Per Resource	Specific Function/Capabilities Rescue	US&R Rescue Squad C	Collapse Rescue Team Leaders 20 - NIMS Type 1 Structural Collapse Rescue Technicians  All of the above personnel maintain currency as NIMS Type 1 Structural Collapse Rescue Technicians.	eaders are consistent with the Collapse Technicians are	position description for FEMA consistent with the position

	RESOURCE TYPES					
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Personnel	Per Resource	Specific Function/Capabilities HazMat	Same as Type 2 PLUS  Deploys a CBRNE functional HazMat capability, to include appropriate Level B PPE that can perform operations in a structural collapse contaminated environment for at least 12 hours.  Personnel must maintain the training and skills on equipment necessary in an environment requiring Level B PPE, consistent with 29 CFR 1910.120, in order to perform operations in a CBRNE or contaminated environment.	2 - NIMS Type 1 HazMat Officers 8 - NIMS Type 1 HazMat Technicians	1 - NIMS Type 1 HazMat Officer 4 - NIMS Type 1 HazMat Technicians	2 - NIMS Type 1 HazMat Technicians
			environments. Hazardous to defensive operations. The and capable of being extended the be	R Task Forces perform limite materials capability is limite the Type 1 is also capable of ended up to an additional 2. E as defined by 29 CFR 19 to Hazardous Materials/V	ed to one operational period a 12 hour operational period 4 hours when augmented v 10.120 and consistent with	of 12 hours and is limited in a CBRNE environment vith additional equipment. NFPA 472: Standard for
Personnel	Per Resource	Specific Function/Capabilities Heavy Rigging	Same as Type 2	2 - Heavy Equipment Rigging Specialist	1 - Heavy Equipment Rigging Specialist	Not Specified
			NOTES: Not Specified			

	RESOURCE TYPES					
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Personnel	Per Resource	Specific Function/Capabilities Medical	Same as Type 2	2 - Medical Team Managers 4 - Medical Specialists  The Medical Team Managers are licensed physicians who are 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 be a currently licensed physician with current ACLS, ATLS and PALS certification (or equivalent) whose medical activities include clinical medicine and/or pre-hospital care.	1 - Medical Team Manager 2 - Medical Specialists  The Medical Team Manager is 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 be a currently licensed physician with current ACLS, ATLS and PALS certification (or equivalent) whose medical activities include clinical medicine and/or pre-hospital care.	2 - NIMS Type 1 Paramedics, who are also trained in collapse compartment syndrome.
				lical professionals are licensed		
Personnel	Per Resource	Specific Function/Capabilities Logistics	Same as Type 2	2 - Logistics Team Manager 4 - Logistics Specialists	1 - Logistics Team Manager 2 - Logistics Specialists	2 - Logistics Specialists
			NOTES: Not Specified			
Personnel	Per Resource	Specific Function/Capabilities Communications	Same as Type 2	2 - NIMS Typed Incident Communications Technicians	Same as Type 4	1 - NIMS Typed Incident Communications Technician
			NOTES: Not Specified			
Personnel	Per Resource	Specific Function/Capabilities Planning	Same as Type 2	2 - Plans Team Manager 2 - Technical Information Specialist	1 - Plans Team Manager 1 - Technical Information Specialist	1 - Plans Team Manager, who is also qualified to serve as a Technical Information Specialist

**NOTES:** Not Specified

	RESOURCE TYPES								
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4			
Personnel	Per Resource	Specific Function/Capabilities Structural	Same as Type 2	2 - Structures Specialist	1 - Structures Specialist	Not Specified			
		Collapse Assessment	NOTES: Not Specified						
Personnel	Per Resource	Common-Area Functions	Same as Type 3	Same as Type 3	Same as Type 4 PLUS Includes use of water vehicles for support if deployed to water or water-related disaster events.	1. Provides for the following basic Incident Command System (ICS) functions: a. Safety of the Task Force personnel and operations b. Medical care of Task Force personnel and those being rescued c. Logistics: small repairs of small equipment and incident logistics support d. Plans Task Force level tactics e. Camp shelter if needed f. Full field decontamination of personnel 2. Provides basic ground support for helicopter operations and possibly greater 3. May include use of ground vehicles and aircraft for support			
			NOTES: Not Specified						

ESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Equipment	Per Resource	Technical	Same as Type 3	Same as Type 3	The Type 3 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	Minimum criteria for technical equipment includes: 1.Search cameras 2.Listening devices 3.Mapping, Global Positioning System (GPS), and other victim locating equipment
			NOTES: Refer to FEMA US	&R Cache lists for further deta	ailed equipment guidelines.	
Equipment Per Re	Per Resource	Rescue	Same as Type 3	Same as Type 3	Same as Type 4 PLUS  Concrete breaching and breaking equipment including concrete saws, jack hammers, and concrete drills and hammer drills.  The Type 3 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	Minimum criteria for rescue equipment includes:  1. Shoring equipment for wood and prefabricated metal shoring, including saws and other construction equipment  2. Concrete lifting and stabilization equipment  3. Heavy rigging equipment for crane operations  4. Rope rescue equipment for high-angle, low-angle, and confined space rescue  5. Vehicle and machinery extrication equipment including air bags and hydraulic rescue equipment
			NOTES: Refer to FEMA US	&R Cache lists for further deta	ailed equipment guidelines.	

	RESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4	
Equipment	Per Resource	Survivor extraction system	Same as Type 3  NOTES: 1. Each response	Same as Type 3  or mission may necessitate a	The Type 3 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	Minimum criteria for survivor extraction system equipment includes: 1.Litter basket or similar 2.Litter wheel 3.Adjustable bridle 4.Patient harness 5.system	
			equipment.  2. Refer to FEMA US&R Cache lists for further detailed equipment guidelines.				
Equipment	Per Resource	Medical	Same as Type 2	The Type 2 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 1 guideline.	Minimum criteria includes: medical equipment and pharmaceuticals necessary to care for entrapped victims and injured rescue personnel.	
			NOTES: Refer to FEMA US	6&R Cache lists for further de	tailed equipment guidelines.		

	RESOURCE TYPES					
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Equipment	Per Resource	Hazardous materials	environments.  2. Hazardous materi operations. The Type 1 is all being augmented with additi	must be equipped at 100% of the FEMA US&R Type 2 guideline.  S&R Task Forces perform lials capability is limited to one so capable of a 12 hour oper onal equipment and supplies	Equipped with Level C PPE in order to operate in a structural collapse environment. PPE must include limited selfcontained respiratory protection for rescue personnel working in confined spaces and for personnel providing rapid intervention capabilities.  Includes limited decontamination equipment of at least a gross decontamination wash and personal shower for rescue personnel.  The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 2 guideline.	s and is limited to defensive vironment and is capable of additional 24 hours.
			CFR 1910.146.		vith the requirements defined in extraction of the state	11 23 OFN 13 10. 120 and 29

RESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Equipment	Per Resource	Safety	Same as Type 2	The Type 2 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 1 guideline.	Minimum criteria for safety equipment includes; defensive water safety equipment and electric current detectors.
			equipment.	or mission could necessitate a		
Equipment	Per Resource	Communications	Same as Type 2	The Type 2 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 1 guideline.	Minimum criteria for communications equipment includes: 1.Portable radios, programmable or on ncident frequencies 2.Handi-mikes or 3.earphones/headsets
			<ol><li>Intra-team and introperations Guide (NIFOG).</li></ol>	nt Command should determine ter-team communications shou S&R Cache lists for further de	uld be consistent with the Nat	

RESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Equipment	Per Resource	Personal protective equipment	equipment. 2. Personal protecti Standard Institute (ANSI) Z on Life Safety Rope and Ed	ve equipment is addressed b (359: Fall Protection Code; N quipment for Emergency Ser	y the following standards: An lational Fire Protection Asso vices or equivalent; PPE is a	Minimum criteria for PPE includes:  1. Helmets, headlamps, batteries  2. Eye and hearing protection  3. Breathing protection to include supplied air breathing apparatus and limited quantities of selfcontained breathing apparatus 4.  Uniform/protective clothing  5. Gloves 6. Footwear  7.  Deployment/travel pack  8. Initial attack pack  9. Personal medical kit  10. Survival kit 11. Other necessary field packs or gear  12. Foul weather clothing  ment, such as water operations  merican National ciation (NFPA) 1983: Standard liso addressed by the following al Regulations (CFR) 1910.146
			Permit-Required Confined	Spaces. S&R Cache lists for further de		

RESOURCE TYPES						
COMPONENT	METRIC/ MEASURE	CAPABILITY	TYPE 1	TYPE 2	TYPE 3	TYPE 4
Equipment	Per Resource	Water Operations	Same as Type 2	The Type 2 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 1 guideline.	Not Specified
			NOTES: 1. Each response or mission could necessitate additional specialized supplies.  2. Refer to FEMA US&R Cache lists for further detailed equipment guidelines.			
Supplies	Per Resource	Medical	Same as Type 2	The Type 2 Task Force must be equipped at 100% of the FEMA US&R Type 1 guideline.	The Type 3 Task Force must be equipped at 50% of the FEMA US&R Type 1 guideline.	Not Specified
			NOTES: 1. Each response or mission could necessitate additional specialized supplies.  2. Refer to FEMA US&R Cache lists for further detailed equipment guidelines.			

1. All rostered personnel should have current background checks as required by applicable law (local law). This may include the following: background check currency within twelve months; sex offender registry check; and/or a social security-based criminal history.

# References

#### Reference

FEMA, NIMS 509-2: Incident Communications Technician

FEMA, NIMS 509-2: Safety Officer FEMA, NIMS 509-4: HazMat Officer

FEMA, NIMS 509-4: HazMat Technician

FEMA, NIMS 509-8: Canine Search Specialist – Disaster/Structural Collapse Live

## References

#### Reference

FEMA, NIMS 509-8: Canine Search Specialist - Disaster/Structural Collapse Human Remains

FEMA, NIMS 509-8: Structural Collapse Rescue Team Leader

FEMA, NIMS 509-8: Structural Collapse Rescue Technician

FEMA, NIMS 509-8: Structural Collapse Search Team Leader

FEMA, NIMS 509-8: Structural Collapse Search Technician

FEMA, NIMS 509-8: US&R Task Force Leader

FEMA, National US&R Response System, 2011 Approved Task Force Equipment Cache List, March 2011

FEMA, National US&R Response System, Rescue Field Operations Guide, September 2006

FEMA, National US&R Response System, Operations Manual, September 2012

FEMA, National US&R Response System, Training Program Administration Manual, February 2013

American National Standard Institute (ANSI) A10.14 American National Standard for Construction and Demolition Operations - Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use, latest edition adopted

ANSI Z359.1 American National Standard Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components, latest edition adopted

ASTM International (ASTM), F-2890-12 Standard Guide for Hazard Awareness for Search and Rescue Personnel, latest edition adopted

International Code Council, International Building Code

National Fire Protection Association (NFPA) 1983 Standard on Life Safety Rope and Equipment for Emergency Services, latest edition adopted

NFPA 1006: Standard for Technical Rescuer Professional Qualifications, latest edition adopted

NFPA 1670: Standard on Operations and Training for Technical Rescue Incidents, latest edition adopted

NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents, latest edition adopted

Occupational Safety and Health Administration (OSHA), 29 Code of Federal Regulations (CFR) 1910.120, Hazardous Waste Operations and Emergency Response

OSHA, 29 CFR 1910.134, Personal Protective Equipment

OSHA, 29 CFR 1910.146, Permit-Required Confined Spaces

U.S. Department of Homeland Security, Office of Emergency Communications (OEC), National Interoperability Field Operations Guide (NIFOG), v. 1.4, January 2014