

FEDERAL EMERGENCY MANAGEMENT AGENCY

***NATIONAL
URBAN SEARCH AND RESCUE
RESPONSE SYSTEM***

**A Component of the National Response Plan
Emergency Support Function # 9**



FEMA

**HEAVY EQUIPMENT & RIGGING SPECIALIST
POSITION DESCRIPTION**

**National Urban Search & Rescue Response System
Heavy Equipment & Rigging Specialist Position Description**

General Requirements

1. Must be able to meet the physical requirements of the sponsoring agency with or without accommodations.
2. Must be available on short notice to mobilize within six hours of request and be self-sufficient for at least 72 hours for a response assignment of up to 10 days in austere environments.
3. Must be capable of improvising and functioning for long hours under adverse conditions.
4. Must maintain current inoculations for Diphtheria/Tetanus (or Tetanus only if there is a contra-indication to Diphtheria), Hepatitis A & B, Measles/Mumps/Rubella (if born after 1957), and Polio.
5. Must be able to function safely at heights and on or around rubble.
6. 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 FEMA's US&R Response System, organizational structure, operating procedures, safety practices, terminology, knowledge of all task force equipment, and communications protocols.
9. Must have successfully completed the First Responder Operations Level for Hazardous Materials as per OSHA Standard 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response.
10. Must be currently certified in America Heart Association (or equivalent) Cardiopulmonary Resuscitation - Basic Life Support.
11. Must have a working knowledge of the Incident Command System including successful completion of the IS-100, IS-200, IS-700 and IS-800 on-line courses.
12. Successful completion of the DHS/FEMA US&R Orientation Course or equivalent.
13. Successful completion of Respiratory Protection training and quantitative fit test per 29 CFR 1910.134
14. Successful completion of the DOJ Emergency Response to Terrorism, Basic Concepts or equivalent.
15. Successful completion of the FEMA/US&R WMD Enhanced Operations
16. Successful completion of Awareness Level training per NFPA 1670 including;
 - Confined Space Operations
 - Water Rescue Operations
 - Structural Collapse Operations

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17. Successful completion of Garmin V GPS Awareness Level course
18. Must understand the needs of and provide support to their counterparts within the task force for specific operations, techniques and application of tools and equipment.
19. Must possess training and experience in personal safety in US&R environments.
20. The authority having jurisdiction shall assure that the individual meets or exceeds the required knowledge, skills, and abilities (KSA's).

Position Specific Requirements

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.

Description of Duties

The Heavy Equipment and Rigging Specialist is responsible for:

- Assessing the need for and capabilities of various construction-related equipment to assist task force personnel in US&R activities.
- Identifying various rigging techniques to assist in the rescue of victims or stabilization of collapsed buildings, including the development of rigging plans and procedures.
- Interacting with and coordinating efforts between the task force personnel and heavy equipment and crane operators.
- Adhering to all safety procedures.
- Providing accountability, maintenance, and minor repairs for all issued equipment.
- Performing additional tasks or duties as assigned during a mission.

Position Requirements and Criteria

Individuals who meet the following requirements and criteria will be eligible to become Heavy Equipment and Rigging Specialists in the FEMA US&R Response System. 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. The requirements and criteria for the position are identified in the following categories:

Knowledge
Skills
Abilities

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Knowledge

The Heavy Equipment and Rigging Specialist must have:

1. Knowledge of the operational characteristics and capabilities of light and heavy construction equipment, such as load charts.
2. An understanding of the methods of construction and demolition of structures.
4. Knowledge of construction materials.
5. Knowledge of heavy rigging operations, to include:
 - Use and application of rigging tools.
 - Knowledge of lift capacity assessment.
 - Knowledge of lift engineering applications.
 - Knowledge of equipment maintenance and inspection procedures.
 - Knowledge in the use of anchor systems.
6. Knowledge of shoring methods and materials.
7. Knowledge of universal hand signals for heavy equipment.
8. Completed Basic Rescue Module (Appendix A) consisting of Confined Space (entrant), basic Rope Rescue, and Trench Awareness.
9. Suggested completion the FEMA Heavy Equipment and Advanced Rigging Training course.
10. Knowledge of how Rescue Specialists are trained to perform Breaking and Breaching, Lifting and Moving, and Shoring Construction. *As a minimum the Heavy Equipment & Rigging Specialists must complete Module 4 – Lifting and Moving of the Structural Collapse Technician course, as presented by own Task Force*

Skills

The Heavy Equipment and Rigging Specialist must be:

1. Experienced in heavy construction field, such as heavy equipment operator, crane operator, iron worker, rigger, or other applicable field.
2. Proficient in the use of cutting torches and related welding equipment.

Abilities

The Heavy Equipment and Rigging Specialist must:

1. Be able to interact effectively with Task Force personnel, especially the Rescue Manager, Safety Officer and Structures Specialist.
2. Be able to prepare a competent Heavy Equipment and Rigging Activity Plan.
3. Be capable of recognizing unsafe heavy equipment operations and appropriately addressing them to ensure site safety

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General Operational Checklist

UPON ACTIVATION / AT TASK FORCE ASSEMBLY POINT

- ❑ Receive notification of assignment and instructions from the initiating organization.
- ❑ Establish communications with the appropriate supervisor.
- ❑ Monitor mission-related information from local sources such as radio and television.
- ❑ Review the personal equipment checklist.
- ❑ Ensure that you have personal daypack, ear plugs, and warm clothes for flight.
- ❑ Report to the assigned Assembly Point at the prescribed time.
- ❑ Forward an accurate Responder Information Sheet to the Medical Team Manager.
- ❑ Complete check-in procedures to include medical screening.
- ❑ Ensure that you receive any appropriate issue of gear (radio, functional vest, etc.)
- ❑ Participate in task force briefings and meetings as requested.
- ❑ Carry out assignments as directed.
- ❑ Must not be under the influence of illegal substances or alcohol for the duration of the deployment.

AT POINT OF DEPARTURE

- ❑ Participate in task force briefings and meetings as requested.
- ❑ Carry out assignments as directed.
- ❑ Ensure that electronic equipment is turned off prior to boarding aircraft.

IN TRANSIT

- ❑ Review the FEMA US&R Field Operations Guide for information pertinent to your position description, operational checklist, operational procedures, and safety procedures.
- ❑ Monitor mission-related information from local sources such as radio and television.
- ❑ Review disaster related information, as it becomes available.
- ❑ Take advantage of available travel time for rest prior to arrival.
- ❑ Carry out assignments as directed.

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ARRIVAL AT MOBILIZATION CENTER

- ❑ Participate in task force briefings and meetings as requested.
- ❑ Carry out assignments as directed.

ON-SITE OPERATIONS

- ❑ Ensure your physical readiness through proper nutrition, water intake, rest, and stress control techniques.
- ❑ Participate in the task force daily briefings and meetings as requested.
- ❑ Ensure use of all safety practices and procedures.
- ❑ Ensure proper equipment needs are met and equipment is operational prior to each work period.
- ❑ Carry out assignments as directed.
- ❑ Report any signs/symptoms of incident stress, injury, fatigue, or illness in yourself/coworkers to your immediate supervisor.
- ❑ Brief your shift replacement fully on all ongoing operations when relieved at work cycle rotations.
- ❑ Prepare appropriate reports (i.e. Unit Logs ICS-214, etc.).

REASSIGNMENT/DEMOBILIZATION

- ❑ Participate in the task force daily briefings and meetings as requested.
- ❑ Prepare personal belongings for demobilization.
- ❑ Carry out assignments as directed.
- ❑ Ensure the return of all items issued to you during the mobilization phase.
- ❑ Upon return, participate in the task force mission critique and incident stress management activities.
- ❑ Submit comments to your supervisor for inclusion in the after-action reports. This should include reviewing pertinent position descriptions, operational checklists, and procedures for recommended changes.

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Position Specific Operational Checklist

HEAVY EQUIPMENT & RIGGING SPECIALIST

The purpose of this checklist is to define the duties and responsibilities of the Heavy Equipment and Rigging Specialist during a mission assignment. The list is intended to be a general summary of actions. It should be understood that:

- 1) Some required actions may not be listed, but must be identified and assumed by this position.
- 2) Some actions may be the primary responsibility of another task force position, but may require assistance and coordination from this position.
- 3) The actions are listed in a general chronological order, but may require deviation.

UPON ACTIVATION / AT TASK FORCE ASSEMBLY POINT (see general operational checklist)

AT POINT OF DEPARTURE (see general operational checklist)

IN TRANSIT (see general operational checklist)

ARRIVAL AT MOBILIZATION CENTER

- Identify heavy equipment that should receive priority for initial movement to the assigned area. Become familiar with available heavy equipment resources, and develop list of anticipated heavy equipment needs.
- Brief Rescue Manager, Safety Officer, and Structures Specialists on relevant heavy equipment concerns.
- Determine coordination and communication protocol with the IST Structural Unit Leader.

ON-SITE OPERATIONS

- Conduct an on site assessment of the need for cranes and heavy equipment and make recommendations to the Rescue Team Manager.
- Brief heavy equipment operators and construction officials regarding the task force capabilities, limitations, operational procedures, and objectives in a manner understandable to the industry.

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- ❑ Ensure that heavy equipment operators are briefed on rescue site safety considerations and emergency signaling procedures.
- ❑ Coordinate rigging and heavy equipment utilization for rescue operations in conjunction with the equipment operators and the Rescue Team Manager or Squad Officer.
- ❑ Provide technical support and advice during rescue operations.
- ❑ Keep the Rescue Team Manager apprised of any tactical accomplishments or conflicts, supplies deficiencies, or equipment malfunctions.

REASSIGNMENT/DEMOBILIZATION

- ❑ Notify the assigned supervisor of the loss or potential maintenance requirements of any assigned tools and equipment.

Appendix A

Technical Rescue Skill Sets

Minimum skill set recommendations for Task Force Personnel who enter the hazard zone, i.e. forward deployment:

- General Requirements of NFPA 1670
- Rope Rescue awareness per NFPA 1670*
- Trench Rescue awareness per NFPA 1670
- Confined Space Rescue awareness per NFPA 1670
- Structural collapse awareness, NFPA 1670
- Duties of the Entrant per 29 CFR 1910.146
- * Additional Required Rope Rescue skills;
 - Safety considerations during rope rescue operations
 - Characteristics of life safety rope and webbing
 - Application of rope rescue hardware specific to a lowering operation
 - Application of rope rescue hardware and software specific to a belay line
 - Assemble and apply a Class III harness
 - Assemble and apply a “Hasty Harness”
 - Tie a Simple Figure eight knot
 - Tie a Figure Eight follow-through knot
 - Tie an overhand follow-through with webbing
 - Attach a prusik loop to a rope
 - Be familiar with anchor systems
 - Be familiar with raising and lowering systems
 - Proficiency at attaching yourself to, and participating in a raising or lowering system
 - Proficiency at descending and ascending a fixed line, low angle