

FEMA US&R RESPONSE SYSTEM
Position Description
HEAVY EQUIPMENT AND 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 Technical 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.
- Interacting with and coordinating efforts between the task force personnel and heavy equipment and crane operators.
- Adhering to all safety procedures.
- 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

Knowledge

1. Knowledge of the operational characteristics and capabilities of heavy construction equipment to include, but not limited to, cranes, back hoes, front-end loaders, dump trucks, etc.
2. Knowledge of heavy construction techniques and a basic understanding of the methods and procedures used in the demolition (destruction) of structures.
3. Knowledge of heavy rigging operations, to include:
 - Knowledge of the use and application of rigging tools to include, but not limited to:
 - A. Wire rope and wire rope slings
 - B. Chain and fabric slings
 - C. Woven wire slings
 - D. Load binders, come-alongs, and chain falls
 - E. Snatch blocks and block and tackle

- F. Swivels, hooks, and shackles
 - Knowledge of lift capacity assessment, to include:
 - A. Assessment of rigging attachments at a rescue site.
 - B. Determination of the lift capacities of various types of rigging equipment through the interpretation of specification charts.
 - C. Determination of the rated capacities of various slings and bridles from specification charts.
 - Knowledge of lift engineering applications, to include:
 - A. Various hitch systems.
 - B. Calculation of load application on sling systems.
 - C. Raising systems.
 - Knowledge of equipment maintenance and inspection procedures.
 - Knowledge in the use of anchor systems, to include:
 - A. The use and application of fastening and anchoring devices.
 - B. The knowledge of placement and loading principles.
 - C. The understanding of anchor failure principles.
4. Knowledge of the methods of construction using any of the common building materials.
 5. Understanding of the construction techniques of architectural materials such as unreinforced masonry and concrete.
 6. Knowledge of the capabilities of light construction equipment including, but not limited to, rotary impact drills, concrete saws, and core drills.
 7. Knowledge of shoring methods and materials, to include:
 - Knowledge of the abilities of various shoring materials such as air bags, jack shores, pneumatic, shores and timber.
 - Ability to improvise and provide shoring with available materials.
 - Knowledge of techniques and ability to recognize and prevent potential problems.
 8. Knowledge of universal hand signals for heavy equipment use (i.e. cranes, forklifts, Bobcats, loaders)

Abilities (see *general requirements*)

Skills

1. Demonstrated experience in heavy construction field, such as heavy equipment operator, crane operator, iron worker, rigger, or other applicable field.
2. Ability to use cutting torches and related welding equipment.