**This AHA is provided as an example of content to consider during development of project-specific AHAs for like activities**

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| **Activity**:  Crane Safety following OSHA 1926 Subpart CC  Hoisting and Rigging following OSHA 1926 Subpart R |

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| **HAZARDS** | | |
| *JOB STEP* | *HAZARDS* | *ACTIONS TO ELIMINATE OR MINIMIZE EACH HAZARD* |
| 1. Preparation | Unpreparedness  Weather  Unstable Ground  Utility contact or collapse | Develop and document a lift plan.  Plan to monitor the weather and forecast to determine if conditions will be safe for the lift. Establish weather-related lift restrictions.  Determine if conditions will be firm, stable, and adequately drained.  Determine if there are utilities present in the work area whether they are above or below ground. |
| 1. PPE | Cuts and Abrasions  Overhead Hazards  Foot Injury  Personnel Visibility  Eye Injury | Long pants and work gloves, as needed.  Hardhat  Safety toed shoe  Class II Safety Vests, Class III if working in traffic.  Safety Glasses |
| 1. Setup | Unpreparedness  Unrestricted access  Damaged Equipment  Pinch Points/Crushing  Trips  Sprains and strains from lifting  Falls/Working at heights  Contact with powerlines  Ground stability/access issues  Poor communication | Review and verify the lift plan, and ensure the correct equipment is on site with the appropriate capacity to lift the load. Verify loads per the accepted lift plan. Verify appropriate rigging that is compatible with the load to be lifted.  Pre-lift meeting will be conducted to review lift and ensure that everyone understands the plan. Any deviations from the accepted plan will need to be discussed with team, including the Owner.  Prevent unqualified/unauthorized individuals from accessing the lift area. Use caution and/or danger tape as appropriate. If unauthorized personnel enter the area, then operations will be suspended until area can be secured.  Vacate swing radius for lifts <7%5 capacity of crane. Vacate collapse radius for lifts >75% capacity of crane.  Inspect rigging and hoisting equipment prior to use and during use to ensure proper condition.  Remove from use immediately (and tag or destroy) any damaged or defective rigging equipment.  Store rigging out of the weather when not in use.  Maintain situational awareness for hand, foot, and body placement with respect to equipment, load, and surroundings.  Only trained personnel to assist with assembling/disassembling of counterweights and outriggers.  Maintain the work site in a clean an orderly condition. Remove trip hazards and stow rigging equipment, when not in use.  Situational awareness, bend at knees, use help when lifting heavy items.  Fall protection equipment required when working at heights (either guardrails or PFAS).  Acquire correct voltage information from Owner. Maintain minimum 10-foot clearance from overhead electrical lines 50KV or less. See OSHA 1926.1408, Table A. If voltage is not known, then maintain 20-foot clearance. Additional precautions may have to be taken if minimum distance cannot be maintained.  Verify ground conditions are firm and free of underground voids such as electrical vaults, manholes, storm water systems, etc.  Set up crane in an area that permits full extension of outriggers.  Signal person(s) must be specified. |
| 1. Inspection | Damaged, deteriorated equipment/Equipment failure | All rigging and related equipment shall be inspected, stored, and maintained per OSHA and the manufacturer’s recommendations and requirements.  Competent persons shall ensure rigging equipment has legible tags to identify the rigging capacities, configurations, and other required information.  Competent persons shall ensure that rigging equipment will not be loaded in excess of its recommended safe working load as prescribed on the identification markings by the manufacturer.  Verify no damage/deterioration on:   * wire rope slings * chains * synthetic web or round slings * safety latch * shackles, hooks, eye bolts, connecting devices and other components.   Complete OSHA- required pre-lift checklists |
| 1. Rigging and hoisting load | Catastrophic failure/damage/serious injury/death | Ensure the load is level and secure and rigged according to manufacturer specifications.  Tag lines are to be used to control a load unless there use creates an unsafe condition.  Loads should not be moved or suspended above workers.  Never walk under a suspended load.  A warning horn shall be sounded to alert workers when a load approaches the work area.  Material/loads are recommended to be landed on dunnage to avoid damage to landing surfaces and rigging. Dragging rigging from under the load by force of the crane is prohibited.  Rigging shall be protected from damage by sharp edges of the load.  Work shall stop if lightning is in the area.  Winds should not exceed the manufacturer’s specifications. |