Job hazard analysis (JHA): Crane lift and rigging

Task: Crane lift and rigging	**Site or job:**
Crew:	**Date:**
Supervisor:	

No.	Job step	Hazard	Controls (most effective first)
1	Plan the lift and verify the load weight	Overload or a lift outside the crane chart	**Eliminate:** Choose a lighter pick, a split load or a closer set-up that avoids a critical lift. **Engineering control:** Verify that the load is within the rated capacity of the equipment, by one of the methods the standard lists. (29 CFR 1926.1417(o)(3)) **Administrative control:** Never operate the equipment in excess of its rated capacity, and never require the operator to. (29 CFR 1926.1417(o)(1)) **Administrative control:** Write a lift plan with load weight, radius, boom angle, route and who does what.
2	Inspect the crane and rigging	Worn rope, damaged hook or defective sling	**Administrative control:** Have a competent person begin a visual inspection before each shift the equipment is used. (29 CFR 1926.1412(d)(1)) **Administrative control:** Inspect rigging equipment before use on each shift, and remove defective rigging from service. (29 CFR 1926.251(a)(1)) **Administrative control:** Do not load rigging beyond the recommended safe working load on its identification marking. (29 CFR 1926.251(a)(2)(ii)) **Administrative control:** Store rigging away from the work area when it is not in use. (29 CFR 1926.251(a)(3))
3	Set up the crane and check power lines	Crane contacts a power line	**Eliminate:** Have the utility owner de-energize and visibly ground the line, or do not pass below it. (29 CFR 1926.1408(d)(1)) **Engineering control:** Erect an elevated warning line, barricade or line of signs with flags, in view of the operator, at 20 feet from the line or at the Table A distance, depending on the option used. (29 CFR 1926.1408(b)(3)) **Administrative control:** Identify the work zone and decide whether any part of the equipment, load line or load could get closer than 20 feet to a power line. (29 CFR 1926.1408(a)(2)) **Administrative control:** Hold a planning meeting with the operator and the other workers in the area to review the line and the steps to prevent encroachment. (29 CFR 1926.1408(b)(1))
4	Set up the crane and check power lines	Crane tips over from poor ground or wind	**Engineering control:** Level the crane on firm ground with outriggers fully extended and on cribbing as the manufacturer specifies. **Administrative control:** Have the competent person adjust the operation for wind, ice or snow. (29 CFR 1926.1417(n))

No.	Job step	Hazard	Controls (most effective first)
5	Rig the load	Load slips from the sling or spins during the lift	**Engineering control:** Use rigging rated for the angle and weight, and hitch the load so it stays balanced. **Engineering control:** Use a tag line or restraint line if needed to prevent hazardous rotation of the load. (29 CFR 1926.1417(w)) **Administrative control:** Mark rigging with its rated capacity and keep unmarked gear out of service. (29 CFR 1926.251(a)(2)(iii))
6	Control the work area and the signals	Struck by the swinging superstructure or the suspended load	**Eliminate:** Plan hoisting routes that minimize exposure of employees to the load. (29 CFR 1926.1425(a)) **Engineering control:** Mark the swing radius with control lines, warning lines, railings or similar barriers. (29 CFR 1926.1424(a)(2)(ii)) **Administrative control:** Keep employees out of the fall zone while the operator is not moving a suspended load, except where the standard allows. (29 CFR 1926.1425(b)) **Administrative control:** Provide a signal person in each situation the standard lists, with hand, voice or audible signals. (29 CFR 1926.1419(a))
7	Make the lift	Operator loses control of the load	**Administrative control:** Verify the controls are in their starting position and personnel are clear before the engine is started. (29 CFR 1926.1417(g)) **Administrative control:** Keep the operator free from distractions such as a cell phone while operating. (29 CFR 1926.1417(d)) **Administrative control:** Keep rotation speed so the load does not swing beyond the radius at which it can be controlled. (29 CFR 1926.1417(v)) **Administrative control:** Do not use the crane to drag or pull loads sideways. (29 CFR 1926.1417(q)) **Administrative control:** Obey a stop signal from anyone. (29 CFR 1926.1417(y))
8	Land, unhook and secure	Crew caught between the load and the support	**Engineering control:** Land the load on cribbing set to take it, with room for rigging to come out. **Administrative control:** Employees hooking, unhooking or guiding the load must follow the fall zone rules for those tasks. (29 CFR 1926.1425(c)) **Administrative control:** Do not release the hook until the load is stable or secured.
9	Stow and tag	Crane or rigging left in an unsafe state	**Administrative control:** Tag equipment out of service in the cab if it was removed from service. (29 CFR 1926.1417(f)(1)) **Administrative control:** Remove rigging from the immediate work area when it is not in use. Note any damage in the daily log as good practice. (29 CFR 1926.251(a)(3))

Required PPE

- Hard hat
- High-visibility vest

- Cut-resistant gloves for rigging
- Safety glasses
- Safety-toe boots

OSHA sections

29 CFR 1926.1417 Operation; 29 CFR 1926.1412 Inspections; 29 CFR 1926.251 Rigging equipment for material handling; 29 CFR 1926.1408 Power line safety (up to 350 kV): equipment operations; 29 CFR 1926.1425 Keeping clear of the load; 29 CFR 1926.1424 Work area control; 29 CFR 1926.1419 Signals: general requirements; 29 CFR 1926.1427 Operator training, certification, and evaluation; 29 CFR 1926.1428 Signal person qualifications

Reviewed with the crew. Names and signatures

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