

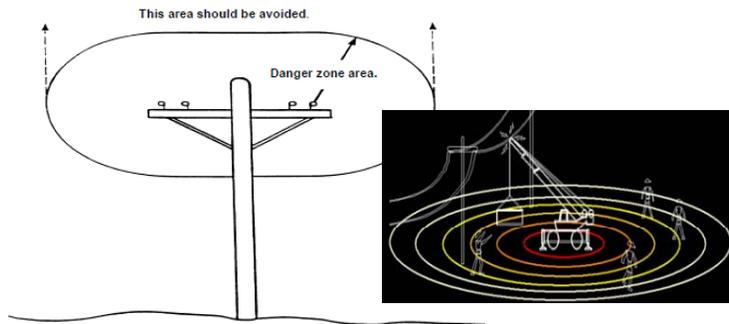
Weight Handling Safety

Title: Power Line Safety: New Minimum **Operational** Clearances

Target Audience: Operators, Riggers, Crane Crews and Supervisors



DANGER ZONE FOR CRANES AND LIFTED LOADS OPERATING NEAR ELECTRICAL TRANSMISSION LINES.



Required clearance for normal voltage in operation near high voltage power lines and operation in transit with no load and boom or mast lowered.

NORMAL VOLTAGE, KV (PHASE TO PHASE)	MINIMUM REQUIRED CLEARANCE, FT. (M)
Operation Near High Voltage Power Lines	
0 to 50	20 (6.10)
Over 50 to 200	20 (6.10)
Over 200 to 350	20 (6.10)
Over 350 to 500	50 (15.24)
Over 500 to 750	50 (15.24)
Over 750 to 1000	50 (15.24)
Operation in Transit with No Load and Boom or Mast Lowered	
0 to 0.75	4 (1.22)
Over 0.75 to 50	6 (1.83)
Over 50 to 345	10 (3.05)
Over 345 to 750	16 (4.87)
Over 750 to 1000	20 (6.10)

NAVFAC P-307, Change 1, Figure 10-3



***** REQUIREMENT CHANGE *****

NAVFAC P-307, Section 10.11.1 Overhead Electrical Transmission Lines

Figure 10-3 Danger Zone for Cranes and Lifted Loads Operating Near Electrical Transmission Lines

Minimum operational clearance distances (loaded or unloaded) are:

For voltages **up to and including 350 kV** the minimum distance is **20 feet**

For voltages **greater than 350 kV** the minimum distance is **50 feet**

- **Always** treat electrical transmission lines as energized until **proven** otherwise.
- Keep crane booms, wire ropes, rigging, and loads away from electrical power lines. **Electricity can arc** from the power line to the crane, wire rope, or load and from the crane to nearby personnel. Electricity can pass through a crane and into the earth around the crane. This may expose ground crew personnel to electrical shock.
- When **operating near energized lines** - **de-energize** and **visibly ground** the power lines. This is the only sure means of eliminating the electrical hazard.
- If a crane is **operating close to live power lines** and/or if the power lines cannot be **de-energized** – **do not touch the crane and remain >30 feet away**. Erect operational boundaries, conduct a briefing, designate a spotter, don proper PPE (which may include electrical PPE), and use non-conductive tag lines.
- **Do not operate BELOW** a live power line. There are two exceptions to this rule, **Both require the minimum clearances to be maintained** with the crane set-up for maximum reach.
- **Movement (in non-travel mode) Below a Power Line:** If any part of the crane will get **closer than the minimum distances** to a power line, a **spotter is required**. When **visibility is poor**, identify and **illuminate** power lines and travel paths.
- In the event the crane **contacts live power lines** – **do not touch the crane and remain >30 feet away; call 911**. Crane operators should stay on the crane until power is de-energized. If the operator can do so safely, move the crane away from the power line. If fire or other conditions force the operator from the crane, jump clear of the equipment **without touching the crane and the ground at the same time**. Shuffle away, keeping both feet in contact with the ground until >30 feet away from the crane. Do not attempt rescue until the electricity has been de-energized.

See NAVFAC P-307 Chg. 1, Section 10.11.1 for a more detailed discussion of requirements.