BRIEF OVERVIEW

OSHA Cranes and Derricks Power Line Safety Requirements 29 CFR §1926, Subpart CC [1407–1411]

REQUIREMENTS THAT YOU MUST FOLLOW BEFORE OPERATING CRANES IN THE AREA OF POWER LINES

Step 1. Identify work area.

Step 2. Determine if any part of the equipment, load line or load, if operated up to the equipment's maximum working radius, COULD get closer than 20 feet from the power line (if the line is less than 350 kV) or 50 feet from the power line (if the line is over 350 kV).

Step 3. If any part of the equipment, load line or load, if operated up to the equipment's maximum working radius, COULD get closer to the power line than 20 feet or 50 feet, as applicable, then YOU MUST either:

Option 1: Confirm from APS that the power line has been de-energized and visually grounded at the worksite; or

Option 2: ENSURE that NO PART of the equipment, load line or load gets closer to the power line than 20 feet for lines up to 350 kV, or 50 feet for lines over 350 kV, by implementing the required Encroachment Prevention Precautions; or

Option 3: If the specific voltage of the line is clarified by APS, then you must ENSURE that NO PART of the equipment, load line or load gets closer to the power line than the Minimum Approach Distances in Table A of OSHA 1926.1408, by implementing the required Encroachment Prevention Precautions.

OSHA TABLE A MINIMUM APPROACH DISTANCES*

Power Line	Distance
Up to 50 kV	10 feet
Over 50 kV up to 200 kV	15 feet
Over 200 kV up to 350 kV	20 feet
Over 350 kV up to 500 kV	25 feet

*Used only after APS has Clarified Specific Voltage.

Required Encroachment Prevention Precautions—
See OSHA 1408(b)

You must do all of the following:

1. Conduct a planning meeting with the operator and the other workers who will be in the area of the equipment or load to review the location of the power line(s), and the steps that will be implemented to prevent encroachment into the minimum approach distance.
2. If tag lines are used, they must be non-conductive.
3. Erect and maintain an elevated warning line, barricade, or line of signs, in view of operator, at the required minimum approach distance (see detailed requirements in OSHA regulation).
4. Implement at least one of the following measures:

a. A proximity alarm set to give the operator sufficient warning to prevent encroachment into the minimum approach distance.

b. A dedicated spotter who is in continuous contact with the operator (see detailed requirements in OSHA regulation).

c. A device that automatically warns the operator when to stop movement (see detailed requirements in OSHA regulation).

d. A device that automatically limits range of movement, set to prevent encroachment into the minimum approach distance.

e. An insulating link/device (see detailed requirements in OSHA regulation).

POWER LINES PRESUMED ENERGIZED

You must assume that all power lines are energized unless APS confirms that the power line has been and continues to be de-energized and visibly grounded at the worksite.

TRAINING

You must train each operator and crew member assigned to work with the equipment (see detailed requirements in OSHA regulation).

POSSIBLE OPTION 4

If you have determined that it is infeasible to do the work without breaching the Minimum Approach Distance under Table A of OSHA 1926.1408, but you believe you can maintain the Minimum Clearance Distance specified in the APS Option 4 Table below; and APS has determined that it is infeasible to de-energize and ground (or relocate) the power line, then you may attempt to qualify for Option 4. You may only proceed with the work if you ENSURE that NO PART of the equipment, load line or load gets closer to the power line than the Minimum Clearance Distance specified in the APS Option 4 Table, by implementing all of the requirements of OSHA 1926.1410(a) through (m), which include but are not limited to:

1. You must retain a Registered Professional Engineer (Registered PE) who is a qualified person with respect to electrical power transmission and distribution to determine the minimum clearance distance that must be maintained to prevent electrical contact in light of the on-site conditions (see detailed requirements in OSHA regulations). However, the minimum clearance distance cannot be less than the Minimum Clearance Distance set forth in the APS Option 4 Table.
2. You must conduct a planning meeting with your Registered PE to determine procedures that shall be followed, including at a minimum, the following:

a. If so equipped and deemed practicable, automatic reclosing features shall be made inoperative by APS. If APS declines to make automatic reclosing features inoperative, operations closer than the OSHA Table A Minimum Approach Distances are prohibited.

b. You are to employ a dedicated spotter equipped with a visual aid and who is in continuous contact with the operator.

c. You must install an elevated warning line or barricade in the view of the operator equipped with flags.

d. You must install an insulating link between end of load line and load.

e. You must use non-conductive rigging.

f. If equipment has device that limits range of movement, it shall be used.

g. Tag lines shall be non-conductive.

h. Provide perimeter barricades at a 10 foot distance around the crane to prevent personnel from entering the work area.

i. Workers other than operator are prohibited from touching the crane or the load line.

j. Only personnel essential to the operation are permitted to be in the area.

k. The crane must be properly grounded.

l. You must arrange with APS to install insulating line hose/cover-up unless unavailable for voltages involved.

3. You must ensure that the procedures developed are documented, available on-site, and followed.
4. Registered PE and employers of employees involved in the work must identify one person to direct implementation of procedures.
5. If procedures are not effective, you must stop work.

APS OPTION 4 TABLE MINIMUM CLEARANCE DISTANCES*

Power Line	Distance
Up to 50 kV	10 feet
69 kV	11 feet
115 kV	13 feet
230 kV	16 feet
345 kV	20 feet
500 kV	25 feet

*Based on ARS §40-360.42