ELECTRICAL WORK

General

1. Electricians must comply with the applicable requirements of the California Electrical Code (Title 24, Part 3), which adopts the National Electrical Code with California amendments, for the task being performed.
2. Electricians must be familiar with the general contents of Cal/OSHA's Electrical Safety Orders (Title 8, Low Voltage and High Voltage Electrical Safety Orders). Any questions should be directed to your Department or the Safety Department at extension 2890.
3. If an instance arises where the Code cannot be complied with, the Director of Utilities or Safety must be notified.
4. Immediately correct or report electrical equipment or line hazards you observe, to the Electrical Department, extension 1221.
5. Before starting work on any electrical equipment or line, a preliminary inspection including any appropriate tests must be done to determine what conditions exist, and the equipment is in good working order.
6. Portable electrical tools, appliances, and equipment must either be grounded or of the double insulated type.
7. All extension cords must have a functional grounding conductor.
8. Ground fault circuit interrupters (GFCIs) must be utilized on temporary electrical circuits used during construction, demolition, modifications, alterations or excavations, and on sound stages during production.
9. All temporary circuits must be protected by suitable disconnecting switches or plug connectors at the permanent wiring junction.
10. Insulating gloves and other PPE rated and tested for the voltage involved, and electrical-hazard rated footwear, must be worn when appropriate to the job.
11. No metal jewelry, buttons or other objects shall be worn when working on electrical equipment.
12. All machinery or equipment must be locked out before cleaning, servicing, adjusting, or setting up operations. (see CSP Lockout/Tagout)
13. Exposed wiring, frayed cords, deteriorated insulation must be repaired or replaced promptly.
14. Make sure you secure flexible cords or cables at plugs, receptacles, tools, and equipment, and the cord jackets will be securely held in place.
15. Cord, cable, or raceway connections will be intact and secure.
16. In wet or damp locations appropriately grounded electrical tools and equipment must be used; additional measures of protection such as rubber-soled boots, elevated wooden work platforms, GFI installation, etc. may be required.
17. Before any construction, digging, renovation, drilling, etc. commences, the supervisor shall determine the location of all electrical power lines and underground utilities, including by contacting DigAlert / Underground Service Alert (811) at least two working days before any excavation, as required by California Government Code section 4216.
18. Metal ladders are prohibited for use in areas where the person on the ladder may come into contact with energized parts of equipment or circuit conductors.
19. All disconnecting switches and circuit breakers are to be labeled as described in CSP Lockout/Tagout to indicate their use or the equipment being served.
20. Before fuses are replaced, the circuit shall be completely disconnected at all energized points.

21. All interior wiring systems shall include provisions for grounding metal parts or electrical raceways, equipment and enclosures.
22. All electrical raceways and enclosures shall be securely fastened in place.
23. There must be sufficient access and working space maintained around all electrical equipment to permit ready and safe operations and maintenance.
24. All unused openings, including conduit knockouts in electrical enclosures and fittings, shall be closed with appropriate covers, plugs, or plates.
25. All electrical enclosures such as switches, receptacles, junction boxes shall be provided with tight fitting covers and plates.
26. All switches must be horsepower rated equal to or in excess of the motor horsepower rating.
27. Each motor disconnecting switch or circuit breaker should be within sight of the motor control device.
28. Each motor should be located within sight of its controller or the controller disconnecting means shall be capable of being locked in the open position, or when possible separate disconnecting means shall be installed in the circuit within sight of the motor.
29. The controller for each motor in excess of two horsepower shall be rated in horsepower equal to or in excess of the rating of the motor it serves.
30. No employee shall work alone on high voltage (600 Volts and higher) energized lines or equipment.
31. Live electrical parts and equipment that can produce sparks, in control panels, circuit breakers, and switch boxes must be enclosed in some way. If they are 50 volts or higher they shall either be kept in separate rooms or enclosures, or behind partitions, enclosures or enclosed panels or switch boxes or 8 feet above the ground.
32. All Lockout and Tagout procedures shall be followed whenever electrical equipment is to be tested, repaired, cleaned or maintained.
33. Electrical equipment shall be appropriate to the environment where it will be used. i.e. (flammable storage rooms shall be equipped with Class I, Division 1 equipment)
34. Power house operators shall not wear loose clothing or jewelry or have long hair that may become tangled in rotating parts of equipment.
35. Power house operators shall wear appropriate respirators when stoning commutators.
36. Power house operators shall wear safety glasses when checking carbon brushes of MG sets.
37. Power house operators shall wear proper safety equipment as directed by the supervisor when energizing circuits through the use of manual disconnect switch.
38. All appropriate personal protective equipment, to include but not limited to, hard hats, respirators, eye protection, hearing protection, and gloves, must be utilized by all employees when required.
39. When working in a trench or down a manhole a barricade shall be erected preventing pedestrians from falling into the hole.
40. All electrical panels shall be covered whether the circuits are energized or not.
41. Before entering a confined space (manhole) entry must be made in accordance with the Confined Space Code of Safe Practices and Title 8, section 5157, including ventilation, atmospheric testing (oxygen, flammable gases and toxic substances), an attendant, and rescue provisions.
42. Work on or near-energized conductors or circuit parts is permitted only when de-energizing is infeasible or would create a greater hazard. Only qualified persons may perform such work, using insulated tools and PPE rated for the voltage involved and maintaining the minimum approach distances required by Title 8.

43. Unqualified persons and equipment must stay at least 10 feet from energized overhead lines up to 50 kV (greater distances for higher voltages).