

Electric Distribution Mechanic
(Class Code 3837)

Task List

Underground

1. Prepares materials, tools, riggings, and equipment such as exhaust fans, hand tools, hoists, and furnaces in order to have materials ready as needed by journey level workers.
2. Loads, unloads, and moves material, equipment, and tools weighing in excess of 70 pounds to and from truck work sites for use by journey level workers.
3. Removes vault and maintenance hole covers weighing 10-300 pounds using appropriate methods and physical strength in order to open and close underground vaults.
4. Places steel folding maintenance hole screens measuring 3 to 4 square feet and weighing approximately 50 pounds over maintenance hole and vault openings, and places traffic warning signs around maintenance holes in order to protect people and objects from falling into underground maintenance holes or vault openings.
5. Tests for potentially explosive and poisonous gases such as nitrogen, methane, natural gas, and gasoline in maintenance holes and vaults using atmospheric testing devices and, if present, and uses a portable blower to expel gases to ensure a safe work environment.
6. Visually inspects for uncontaminated water in bottom of vault or maintenance hole and, if present, pumps water out using portable pumps or manually removes water by scooping up water with a dipper and placing it in a bucket and then emptying the bucket.
7. Manually lifts new oil cut outs (OCOs) weighing approximately 80 pounds and related electric sub transmission and distribution equipment from truck and lowers these materials into vault by physical means using ropes and hooks or by use of electric winch or crane for heavier equipment (e.g., in excess of 100 pounds) for use by journey level workers inside vault.
8. Installs and connects new and rebuilt transformers and related electric sub transmission and distribution equipment in vaults by physically positioning lowered equipment into place using physical strength and appropriate equipment (e.g., ceiling or jack bar) and connecting equipment using necessary tools and equipment.
9. Removes transformers and related electric sub transmission and distribution equipment in vaults by unbolting equipment from wall or floor of the vault and maneuvering the equipment so that it may be hoisted up and out of the vault in order to replace and/or upgrade the equipment.

10. Splices energized low-voltage and de-energized high-voltage underground power cables using equipment and tools in order to repair trouble on cable, install new cable, and to restore or upgrade service.
11. Heats tinning and wiping materials and insulating compound using propane furnace, weighing 50 pounds, retrieved from truck for use in sealing repaired or newly installed (spliced) cables from moisture.
12. Dresses lead sleeves to prepare for weatherproofing by molding sleeve around cable and sealing it with lead.
13. Lowers and raises tools, materials, and equipment to journey level workers engaged in cable (underground) work using ropes and hooks and may use hoists for heavier equipment.
14. Visually inspects vault equipment such as cables, oil storage reservoirs, lead sleeves, transformers, and trifurcators for damage, appropriate levels, and need for repair.
15. Pulls cable through underground conduit using a rodding tool, string, rope, and a mechanic winch, depending on the size of the cable and condition of the ducts, in order to install new cable, upgrade and replace existing cable, and remove old cable.
16. Sets up rigging tools and equipment such as feed tubes, skookum blocks, winch lines, feed boards, hoists, and chutes, and positions equipment in order to install and remove transmission and sub transmission and distribution power cables.
17. Installs new cable by pulling the cable through ducts from one vault to another operating winch trucks and positioning the cable on vault walls for splicing.
18. Connects low-voltage cables to overhead lines on utility poles using connectors and split bolts and builds conduit risers on side of utility poles in order to feed cable from underground vault and to protect cable as it ascend the pole.
19. Replaces empty or installs new nitrogen tanks in vaults by disconnecting the empty/old tank using appropriate hand tools and connecting the full tank in its place.
20. Heats various compounds such as lead and insulating compounds in order to splice underground cable.
21. Visually inspects water for contaminants such as oil and sewage in order to determine presence of hazardous waste.

Overhead

22. Climbs utility poles approximately 35 to 110 feet in height using gaffs, hands, and safety straps or truck-mounted buckets in order to make repairs and perform necessary tasks safely at top of pole.
23. Installs guy wires on utility poles using hand lines and hoists to move materials into position and then attaching them to the pole by drilling holes with an appropriate drill and bolting the equipment to the pole.
24. Installs crossarms measuring 6 to 12 feet in length and weighing over 100 pounds fully dressed, on utility poles using hand lines and rigging to move materials into position and then attaching them to the pole by drilling holes with an appropriate drill and bolting the equipment to the pole.
25. Operates electric and hydraulic winches in order to raise transformers weighing 500-2000 pounds to journey level workers on top of utility pole.
26. Installs transformers, weighing over 100 pounds, on utility poles using pulleys, hoists, winches, and/or cranes, to move transformers into position and then attaching them to the pole.
27. Carries 20-foot extension ladders from the truck to job location for use in connecting/removing wires from building weather heads.
28. Installs and removes service wires between utility poles and buildings by connecting/removing wire at weather head (at building) and connecting/removing wire at utility pole and connecting/removing wire to/from power source at top pole.
29. Hangs, changes, and/or removes street lights on utility poles by pulling lights up to top of utility pole using hand line or bucket truck and installing time switches for lights and connecting light and time switches to power source at top of pole.
30. Replaces insulators and transformer fuses by manually removing old or broken equipment and replacing with new equipment.
31. Hands and hoists tools, materials, and equipment such as cross arms, platforms, and gins weighing in excess of 100 pounds to journey level workers at top of utility pole.
32. Digs holes for utility poles using shovels, spades, and/or augers and sets the utility poles, weighing approximately 700 to 10,000 pounds, using crane, equipment trucks, gin poles, pikes, ladders, and occasionally helicopters.
33. Drives automotive equipment requiring a Class B and/or Class C license in order to transport personnel and equipment to and from work site as needed.
34. Places proper protective equipment over conductors and lines in order to prevent electrocution.

General

35. Identifies defective sectionalizing devices, circuit breakers, fuses, voltage regulators, transformers, switches, relays, or wiring, using wiring diagrams and electrical-testing instruments.
36. Reads and interprets DWP's schematic maps and plans of the City's electrical system in order to get information.
37. Uses computer software such as WIMS and Microsoft Word in order to complete forms such as time and work reports, complaint memorandums or service reports, inspection records, and accident reports, which are required by Department procedures.
38. Performs multiple tasks concurrently in order to complete job in safe manner.
39. Demonstrates and instructs job tasks in order to train apprentices.

Interpersonal and Communication

40. Coordinates work assignment preparation and completion with other workers.
41. Uses multi-channel radios in order to communicate.
42. Reads written material such as safety handbooks, pole top books, and construction standards in order to research or verify information.
43. Discusses jobs with supervisors and with coworkers in order to arrange work activities and to resolve problems.
44. Uses hand signals in order to communicate with co-workers.

Safety

45. Adheres to safety regulations, standards, practices and procedures, such as checking equipment regularly and erecting barriers around work areas.
46. Opens switches or attaches grounding devices to facilitate repairs in order to remove electrical hazards from disturbed or fallen lines or to facilitate repairs.
47. Uses and cares for personal protective equipment (PPE) such as rubber gloves and other rubber protective equipment.
48. Applies cardiopulmonary resuscitation or other appropriate first aid when needed for such conditions as shock, falls, abrasions, or cuts.
49. Performs pole top and underground rescue