

Electric Distribution Mechanic Trainee  
(Class Code 3870)

Competency List

1. Knowledge of principles of electricity such as applied to electric power distribution and maintenance.
2. Ability to write sufficiently to complete logs, write short memos, and fill in forms.
3. Ability to read and comprehend DWP's schematic maps (diagrams) of the city's electrical system.
4. Knowledge of arithmetic including addition, subtraction, multiplication, and division in order to solve electrical problems.
5. Ability to read Thomas Guide and other maps sufficient to find work sites.
6. Ability to operate multi-channel two-way radios such as 900-megahertz radio, and low band radios in order to communicate.
7. Ability to read and interpret reference guides such as pole top books, standard book, and customer station books in order to research information.
8. Knowledge of transformer tagging and signage such as transformer manufacturer information tags in order to install and repair a transformer with a compatible transformer.
9. Knowledge of line construction such as the types of materials and application of typical poles, hazards involved in power digging, setting of poles, pole brand, in order to install, maintain, and repair lines.
10. Knowledge of personal protective grounding for overhead and underground systems such as the hazards it guards against, requirements for protective grounding, in order to promote a safe work environment.
11. Knowledge of the theory and operation of transformers such as the connection and parallel operation of single-phase and three-phase transformers, in order to install properly.
12. Ability to maintain and connect various street lighting systems.
13. Ability to heat various compounds, metals, and oxides using furnaces and torches in order to splice/connect high or low voltage cables.
14. Knowledge of proper pole climbing techniques.

15. Knowledge of power distribution construction standards.
16. Knowledge of phasing and paralleling procedures in order to keep circuits energized and personnel safe.
17. Knowledge of gins such as A-Frame, Hastings, Bodendeck, Arm, in order to facilitate the installation of transformers.
18. Knowledge of pole top rescue techniques.
19. Ability to follow oral instructions and orders from journey level workers in order to perform assigned duties.
20. Ability to communicate orally in a clear, concise, and understandable manner sufficient to relay information by two-way radio and to other workers who may be far away.
21. Ability to simultaneously perform and complete several tasks.
22. Ability to work together with coworkers in order to complete tasks requiring more than one person.
23. Knowledge of principles and procedures for providing customer service.
24. Ability to train apprentices by identifying the point of the lesson, linking the lesson, demonstrating a skill, providing an opportunity to practice a skill, and providing feedback.
25. Knowledge of CPR and first aid sufficient to begin resuscitation in case of asphyxiation or to take immediate action to prevent further harm in case of other injury.
26. Balance and agility sufficient to climb utility poles, fences and walls, sometimes in adverse weather conditions.
27. Physical strength to lift and lower heavy equipment and materials.
28. Ability to bend and stoop in small and confined work environments such as in cramped underground vaults.
29. Grip strength sufficient to hold on to ropes used to raise tools and equipment up poles and to lower equipment into underground vaults.
30. Physical stamina sufficient to climb several poles in one day and continue working at physically demanding tasks for several hours.
31. Ability to climb ladders, towers, and stepped poles in order to safely reach working area.

32. Willingness to work in adverse weather conditions such as on top of utility poles with high winds, lightning and rain or in underground vaults in excess of 120 degrees Fahrenheit.
33. Willingness to work at heights in excess of 100 feet.
34. Willingness to work in closed and confined quarters where the worker must stoop or bend for several hours while completing work.
35. Willingness to work around potentially lethal high voltage power wires and cables.
36. Willingness to be "on-call" to work night and weekend hours.
37. Ability to operate heavy equipment such as cranes, pole diggers and bucket trucks.
38. Ability to manipulate controls on various hydraulic or electrical equipment such as the bucket or winch, remaining aware of area for safety precautions.
39. Knowledge of rigging techniques including ropes and knots and their applications used in setting up equipment such as pulleys, chain hoists, block and tackle, pulling cable, and to provide temporary support of heavy load.
40. Ability to read scales, dials, digital readings, and measures as required to use various meters, test equipment and measuring devices such as amprobe, phasing meter, low and high voltage.
41. Knowledge of General Order 95 and General Order 128 related to standards for overhead and underground construction.
42. Skill in splicing cable used to join cable ends to make one continuous run, repair cables, or install various equipment.
43. Ability to build conduit risers used to protect cable as it ascends pole.
44. Knowledge of the methods of pulling cable through underground conduits or overhead wire installation and equipment used such as dollies, winches, and pulleys.
45. Knowledge of radio procedures and courtesy such as signing on/off, using call signs, and using a clear channel.
46. Ability to use hand signals to communicate with other employees who are out of auditory range.

47. Knowledge of safety precautions such as setting up traffic and pedestrian control, testing confined spaces, and observing area for possible hazards, and devices such as hard hats, safety belts, safety glasses, gloves, cones and flag stands sufficient to perform work in a safe environment according to safety rules.
48. Ability to use and care for portable power and hand tools (see attached list) commonly used in underground and overhead work.
49. Knowledge of hot stick tool identification and maintenance in order to safely operate.
50. Knowledge of Hazmat procedures in handling and identifying hazardous materials.
51. Knowledge of underground service alerts (USAs).
52. Knowledge of City and departmental rules and policies regarding Sexual harassment, ADA, and EEO practices.