

Electrical Repairer
(Class Code No. 3853)
Task List – 2024

Equipment Inspection, Maintenance, and Repair

1. Troubleshoots, rewinds, and overhauls equipment, such as motors, generators, synchronous condensers, transformers, exciters, induction voltage regulators, motor generators, oil and air blast circuit breakers, switching and fusing equipment, and other high voltage equipment, in order to properly repair the equipment.
2. Aligns shafts and bearings, balances rotors, replaces or refits, and installs bearings in various electrical rotating equipment, such as generators and motors, in order to reduce vibrations and bring equipment to manufacturers specifications.
3. Undercuts and bevels commutators, changes brushes and grinds collector rings on energized and rotating equipment, such as generators, in order to keep the equipment running efficiently and to avoid equipment failure.
4. Assembles and disconnects copper bus bars, barriers, switches, generator lead chambers, and Iso-phase components, in order to achieve an air gap and to ensure proper operation of equipment when reassembled.
5. Winds with a winding lathe transformer coils, such as, motor, generator armature, compensator, and magnetic coils for automatic switches according to diagrams or sketches, in order to repair or replace damaged coils in equipment.
6. Rebuilds transformers by dismantling and removing the core from the tanks, preparing insulation, assembling core, stacking iron, drying the coil in an oven or under vacuum, reassembling according to diagrams or sketches and checking tanks for leaks in order to repair equipment that has been damaged.
7. Repairs and rewinds generating and auxiliary equipment in the field, such as large motors and generators, in order to ensure equipment is back online and operational.
8. Analyzes cause and extent of trouble of high voltage electrical equipment and their auxiliaries, such as generators, motors, boiler feed pump, and fan motors, by visual inspection and testing instruments and devices, in order to determine the best method of repair or if the equipment should be replaced.
9. Unloads, untanks, dismantles, inspects, and tests new electric equipment, such as transformers and motors, to ensure conformance to specifications and identify damage during shipment, if any.

10. Assists in the installation of, and performs routine maintenance on, electrical equipment, such as building wiring, in order to perform repairs or install new equipment.
11. Lays out, cuts, fabricates, drills, paints, and polishes steel, aluminum, and fiber switchboards, terminal boards, barriers, and small and large insulating materials in the shop for use in connection with Water and Power System facilities.
12. Assembles, repairs, remodels and refinishes switch and control boards in generating plants and electric stations in order to maintain equipment functionality.
13. Maintains electronic control components in various types of equipment by testing and adjusting in order to ensure proper function.
14. Maintains electrical equipment and wiring on machines, such as e.g., lathes, drill presses, saws, punch presses, arc welders and shears, in order to ensure proper operation.
15. Brazes or solders lugs, leads, and connections on motors, transformers, condensers and generators, in order to connect components when conducting preventative maintenance and repair on electrical equipment.

Safety

16. Performs rigging work, such as placing slings and cribbing, using block and tackle, and operating cranes and jacks, in order to safely move or install heavy equipment.
17. Cleans cooling coils with acid solutions by etching calcium or other build-up in order to ensure electrical components are properly maintained.
18. Cleans by removing contaminants through various processes, varnishes and insulates generator and motor windings in order to restore electrical insulating integrity.
19. Handles and uses hazardous gases, such as hydrogen, acetylene, oxygen, nitrogen, and carbon dioxide, in order to cool, purify, heat, cut, and clean equipment and to provide fire suppression.

Other Related Duties

20. Makes working sketches of windings and other related pertinent data prior to and during dismantling, rewinding and rebuilding equipment in order to properly repair and reassemble the equipment.

21. Obtains CLEARANCES and "OKs TOs" on high voltage equipment as work authorities to check opening of disconnect switches or blocking of prime movers to communicate potential hazards and possibly avoid energizing circuits while work is being performed.
22. Fills out forms to indicate conditions of equipment and any repairs or adjustments made in order to ensure as found and as left conditions for quality assurance.
23. Acts as a lead a group of employees, in the field or shop environment, including but not limited to, skilled rigging, electrical, and mechanical work in the construction, installation, maintenance, and repair of high/low voltage rotating electrical equipment, transformers, Bridge & Gantry cranes, and Fire Protection Systems, in repair methods and the safe and proper use of equipment.