

Work Processes Schedule

ELECTRICIAN, MAINTENANCE (ANY INDUSTRY)

RAPIDS: 0643N

O*NET/SOC: 47-2111.00

REVISION DATE: 03/2015

Responsible for the operation of electrical power generation systems, lighting systems, electrical equipment and electrical appliances including installation, adjustment, routine maintenance, inspection, test and repair. Install power and lighting circuits; repairing distribution circuits; install wiring for lights and other equipment; maintaining operating efficiency of distribution panels, switches, switchboards, controllers, voltage regulators, current transformers and voltage transformers; maintaining operating efficiency of electric motors; repair electrical equipment and appliances. Interpret electrical sketches, diagrams and blueprints. Install, arrange, remove, and maintain telephone equipment, wiring, and associated hardware. Test installed telephone systems to locate transmission faults. Repair or replace defective and damaged telephones, wires, and associated equipment. Install electromechanical, analog, and digital trunking systems, circuits, and equipment in telecommunications central offices and switching centers.

Applicable Ratings/MOS

USMC MOS 1120, 1141, 1142, 1169, 6073, 6499

USCG EM

USN AS, CE, CT, EM, EMN, ET, ETN, ETR, ETV, GS, IC

Related Instruction

Any trade related schools/courses totaling 576 hours

Additional Requirement

CTT rating Must have NEC 1702, 1734, 1736, or 1737

Total Hours: **8000**

Skill	Description	Hours
A	<p>USE POWER TOOLS AND HAND TOOLS</p> <p>Hand drill; drill press; power saw; pipe-threading machine; safety; soldering iron; bench work.</p>	500
B	<p>TEST INSTRUMENTS AND METERING EQUIPMENT</p> <p>Ammeter; voltmeter; ohmmeter; megger; tachometer (mechanical); oscilloscope; straboscope; frequency meter; phase-sequence indicator; voltage tester; wattmeter; clamp-on ammeter; install meters in circuit; interpret instrument readings.</p>	1000
C	<p>INSTALL WIRING</p> <p>Determine conduit sizes; identify and determine sizes of fittings; bend conduit; pull wires in conduit; install vapor-proof systems; install explosion-proof systems; identify wire; determine wire sizes and capacities; identify AC and DC circuits; install switches and fuses; install controls and relays; troubleshoot; safety; splice wire.</p>	1500
	<p>INSTALL, REPAIR, AND TEST</p> <p>Troubleshoot; install and repair motor controls; repair commutator; dress-up and cut armatures; reinsulate coils; determine neutral position of troubles. Test malfunctioning machinery and discuss malfunction with other maintenance workers to diagnose cause of malfunction. Push buttons and press keys on computer or programmable device to</p>	

D	<p>automated machinery to operate the machinery for testing and fault identification and to verify repairs. Diagnose malfunctioning apparatus such as; transformers, motors, and lighting fixtures using test equipment and replace damaged or broken wires and cables. Replace faulty electrical components of machine such as ; relays, switches, and motors, and position sensing devices. Diagnose, and repair or replace faulty electronic components such as; printed circuit board. Replace electric motor bearings and rewire motors. Diagnose and replace faulty mechanical, hydraulic, and pneumatic components of machines and equipment.</p>	1000
E	<p>PANELS AND CONTROLS</p> <p>Wire distribution cabinets, relays, shunts, and control equipment; test for trouble; hook up switches.</p>	1000
F	<p>INSTALL, REPLACE, AND MAINTAIN</p> <p>Install systems such as; incandescent, fluorescent, sterile vapors and explosion proof. Install fixtures; install switches; run wiring; hook up ballast; replace fuses and bulbs; replace gaskets and seals in water tight fixtures. Install electrical systems, apparatus, and electrical and electronic components of industrial machinery and equipment following electrical code manuals, schematic diagrams, blueprints, and other specifications using hand and power tools, and electrical and electronic test equipment. Install power supply wiring and conduit for newly installed machines and equipment such as; robots, conveyors, programmable controllers, washing machines, lighting systems, primary and secondary power systems following electrical code and blue prints. Connect power supply wires to machines and equipment and connect cables and wires between machines and equipment.</p>	1000
G	<p>GENERATORS AND TRANSFORMERS</p> <p>Identify, troubleshoot, hook up, wire, operate; repair armatures; repair commutators and coils.</p>	1000
H	<p>BLUEPRINTS, DRAWINGS, AND SCHEMATICS</p> <p>Plan layout of wiring and install wiring, conduit, and electrical apparatus in buildings. Read and interpret schematics of switches, controls, and other electric equipment; replace circuit breakers; check oil dielectric; identify and utilize lubricants, cleaning materials, and solvents used in maintenance of electrical equipment; measure insulation resistance; repair portable electric tools, portable lights, and fans; interpret color coding.</p>	1000