

# Work Processes Schedule

## HYDROELECTRIC-MACHINERY MECHANIC (UTILITIES)

**RAPIDS: 0237N**

O\*NET/SOC: 49-9041.00

REVISION DATE: 12/2014

Repairs and maintains in operating condition mechanical elements of generators, waterwheels, water-inlet and floodgate controls, valves, and piping in hydroelectric generating station. Demonstrate knowledge and skills for qualifying as Journeyman. Applicable Job Qualification Requirements will be used as a guide in performing tasks and demonstrating knowledge in the following areas. Actual work time must be recorded in the Work Experience Log.

### Applicable Ratings/MOS

USMC MOS None

USCG EM, MK

USN CE, EM, EMN, EN, GS, MM, MMA, MMN, UT

### Related Instruction

Any trade related schools/courses totaling 288 hours

### Additional Requirement

None

Total Hours: **4000**

Skill	Description	Hours
<b>A</b>	<p><b>SAFETY AND ADMINISTRATION</b></p> <p>Perform shop and equipment safety procedures. Maintain office records in accordance with company standards and policies. Maintain proper records such as; oil and fuel reports, water consumption usage reports, human waste or other routine reports or logs in accordance with company standards.</p>	200
<b>B</b>	<p><b>CLEANING</b></p> <p>Use spray equipment, power or hand tools to clean equipment on work site. In accordance with company standards, use proper materials to clean up and dispose of hazardous materials which have been spilled. Remove rust and scale from inside boilers.</p>	500
<b>C</b>	<p><b>HYDRAULIC SYSTEM TESTING</b></p> <p>Perform in-shop rebuilding of components or equipment; on location repair and system rebuilding. Upon completion of work or at established intervals, perform appropriate tests and inspections of hydraulic systems.</p>	500
<b>D</b>	<p><b>VALVES</b></p> <p>Rebuild control and flow valves. Install repaired or re-built valves and perform system level testing and checking to ensure for proper equipment operation.</p>	300
<b>E</b>	<p><b>BLUEPRINTS</b></p> <p>Use blueprints, drawings, manufacturers, specifications to complete preventive or corrective maintenance on various systems. Use service manuals, diagrams, charts, etc.,</p>	300

	to test and check equipment operation.	
<b>F</b>	<p><b>USE OF SHOP EQUIPMENT</b></p> <p>Operate test equipment such as; voltmeters, ohmmeters, flowmeters, depth gauges or other special tools and equipment to complete the job.</p>	300
<b>G</b>	<p><b>ELECTRICAL REPAIR</b></p> <p>Perform corrective maintenance on electrical systems or components. Perform equipment or system level overhauls on electrical systems. Isolate electrical casualties within electrical units such as; control consoles, switchboards, motors, generators, cable harness wiring, electrical junction panels or other electrical components. Perform adjustments to electrical equipment to regulate flow, current, temperature, salinity, or other factors necessary for proper equipment operation. Test or inspect electrical systems for proper operation under load and no-load conditions.</p>	600
<b>H</b>	<p><b>MAINTENANCE AND REPAIR</b></p> <p>Repair and maintain operating condition mechanical elements such as; generators, waterwheels, water-inlet and floodgate controls, valves, and piping in hydroelectric generating stations. Perform preventive and corrective maintenance of turbogenerators, steam generators, and auxiliary equipment in powerplants, utilizing organic and atomic fuels or waterpower.</p>	700
<b>I</b>	<p><b>INSTRUMENTS</b></p> <p>Lubricate automatic recording instruments, change recording charts, and refill ink containers. Remove instruments from panel boards for repairs, and reinstall them when repairs are completed using hand and power tools.</p>	400
<b>J</b>	<p><b>SUPERVISING OPERATIONS</b></p> <p>Supervise and coordinate activities of workers engaged in installing, adjusting, repairing, and maintaining electrical, mechanical, hydraulic, or pneumatic parts of hydroelectric turbines, generators, and auxiliary equipment. Train workers in repair and maintenance procedures.</p>	200