

Work description: All work involving working on or near sources of electricity

Scope: All work involving the use of portable generators, power tools, heavy equipment operation, welding activities, electrical equipment maintenance and in the vicinity of the third rail and rail vehicles.

References:

- U.S. Occupational Safety and Health Administration (OSHA) Occupational Safety and Health Standards for General Industry contained in Title 29 of the Code of Federal Regulations Part 1910 (29 CFR 1910 Subpart S)
- State of Hawaii - Development Occupational Safety and Health Section (HIOSH) - Hawaii Administrative Rules Title 12, Department of Labor and Industrial Relations Subtitle 8, Hawaii Occupational Safety and Health Division Part 2, General Industry Standards Chapter 60 (§12-60-2(b) Safety and health programs.)

PPE and precautions	Competencies or qualifications	Licenses or permits required
As per Task Risk Assessment	As per Task Risk Assessment	As per Task Risk Assessment
Tools and equipment required		
As per Task / Work Instruction		



Note

Electrocution hazards are present during the use of portable generators, power tools, heavy equipment operation, welding activities, and equipment maintenance.

General Electrical Safety

All

Hazards associated with electricity can be minimized with the following guidelines.

- Portable generators should be properly grounded and extension cords inspected prior to use.
- Extension cords should be protected from damage during use.
- Extension cords and power tools should be kept out of wet areas and protected during periods of inclement weather.
- Ground fault circuit interrupters (GFCI) are required for all 120-volt circuits.
- GFCI protection shall be placed as close to the electrical source as possible.
- Power tools should be inspected prior to each use and be double insulated or have a three-prong plug that includes a ground wire.
- Defective power tools shall be taken out of service until repairs are made or the tool is replaced.
- The frames of arc-welding or cutting machines that incorporate a power outlet shall be effectively grounded.
- HRH shall not permit an employee to work in such proximity to any part of an electric power circuit that he/she may contact the same in the course of his/her work unless the employee is protected against electric shock by de-energizing the circuit and grounding it or by guarding it by effective insulation or other means.
- Before work is begun, HRH shall ascertain whether any part of an electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact therewith.
- Electrical cords: General use extension cords shall be of a type listed by Underwriters Laboratory (UL) and will be 12 gauge or better. Every cord shall be equipped with a grounding conductor plug.
- Temporary lighting shall be equipped with guards to prevent contact with heavy duty electrical cords. They shall not be suspended by their cords unless so designed for that purpose.
- Electrical wire apparatus and equipment shall be of a type listed by the UL or Factory Mutual Laboratories for the specific purpose.
- Live parts of wiring or equipment shall be effectively guarded to protect persons or objects from harmful contact.
- Temporary power lines, switch boxes, receptacle boxes, metal cabinets, and enclosures around equipment shall be plainly marked to indicate the maximum operating voltage.
- Plugs and receptacles shall not be interchangeable between circuits with different voltage and current ratings.
- All hand held electrical tools are to be on ground fault interrupter circuits.
- Pipelines containing gases or flammable liquids or conduits carrying electrical conductors shall not be used for a ground return circuit.
- Servicing and maintenance procedures performed on equipment and machines containing hazardous energy sources (i.e., electrical, pneumatic, hydraulic) shall be controlled through the implementation of a site-specific lockout/tagout program.

Approved By:	<input type="checkbox"/> Director, Operations and Maintenance	<input type="checkbox"/> Department Manager	<input type="checkbox"/> Manager, HSE (Operations and Maintenance)
Signature:			
Date:			

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ELECTRICAL SAFETY

Electrical Safety and Hot Work <i>All</i>	<ul style="list-style-type: none"> Welding equipment shall be shut down when the leads are unattended. Welding leads with splices or repaired insulation within ten (10)-feet of the holder shall not be used. Welding supply cables shall not be placed in proximity to power supply cables. Circuits from welding machines used for other than welding tools shall be grounded.
Overhead Power Lines <i>All</i>	<ul style="list-style-type: none"> Equipment and materials shall be kept at least 10 feet from overhead power lines up to 50,000 volts and at least 10 feet plus 0.4 inches for each 1,000 volts above 50,000 volts from overhead power lines. A designated spotter shall observe clearance of equipment and materials from overhead power lines and give timely warning where it is difficult for the operator to maintain the desired clearance by visual means.
Power Rooms <i>All</i>	<ul style="list-style-type: none"> Only trained and authorized workers with appropriate permits may work in power rooms. A safe system of work must be in place and the required PPE worn for the task to be undertaken Workers should be aware of any abnormal conditions such as noise (crackling or hissing), smells (burning, ozone, rotten eggs) or environment (water ingress, condensation, burning or smoke). If any abnormal condition is detected, the location must be immediately evacuated, and the OCC contacted.
Lineside (near or close to the third rail) <i>All</i>	<ul style="list-style-type: none"> Only trained and authorized workers with appropriate permits may work in power rooms. A safe system of work must be in place and the required PPE worn for the task to be undertaken Always test before applying earths or straps Never assume the equipment is isolated – always test before touch
Information, Instruction and Training <i>All</i>	<ul style="list-style-type: none"> Employees shall be advised of the hazards, and warning signs shall be posted. All installation shall comply with the National Electrical Safety Code, National Electrical Code, or other applicable governing codes. Work shall be performed by personnel familiar with code requirements and qualified for the class of work to be performed.