South Carolina OSHA
Occupational Safety and Health Administration
South Carolina Department of Labor, Licensing and Regulation

SC OSHA FACT SHEET

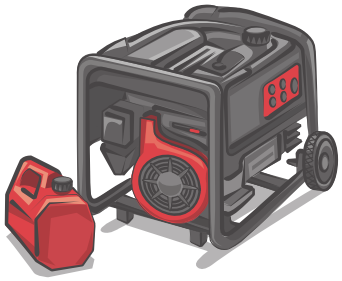
Stay in the **KNOW**!

WORKING SAFELY WITH ELECTRICITY

Working around live electricity is a serious hazard. Engineers, linemen, electricians, and others who work with electricity directly, and workers who work with electricity indirectly may be exposed to serious electrical hazards.

Generators

Generators are commonly used as a replacement source of electricity when electrical power is lost. Most generators are gasoline or diesel powered with internal combustion engines which turn an alternator to produce electricity. One of the hazards from gasoline or diesel powered engines is carbon monoxide (CO). Carbon monoxide is a colorless, odorless gas produced during the operation of gasoline powered generators. When inhaled, the gas reduces your ability to transport oxygen. Symptoms of carbon monoxide poisoning include headache, nausea and fatigue that can lead to unconsciousness and ultimately prove fatal.



The following information is a list of best practices to identify hazards when operating around power lines and electrical equipment.

- **DO NOT** operate a generator indoors. Generators should be placed outdoors in a location where the exhaust gases cannot enter a home or building. Good ventilation is key to operating a generator safely.
- Be sure the main circuit breaker is OFF and locked out prior to starting any generator. This will prevent inadvertent energization of power lines from backfeed electrical energy from generators and help protect utility line workers from electrocution.
- Turn off generators and let them cool prior to refueling.

For more information, visit:
https://osha.llr.sc.gov

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Power Lines

Overhead and buried power lines are especially hazardous because they carry dangerously high voltage. Fatal electrocution is the main risk, but burns and falls are also hazards.

Make sure you:

- Look for overhead power lines and buried power line indicators.
- Stay at least 10 feet away from overhead power lines and assume they are energized.
- De-energize and ground lines when working near them.
- Use non-conductive wood or fiberglass ladders when working near power lines.

Extension Cords

Worn cords can expose the wires within, or loosen the connections on the plug end. Extension cords that are not 3-wire type, not designed for hard-usage, or that have been modified are not as durable. These conditions can increase the risk of electric shock.

- Use equipment that is approved by a nationally recognized testing laboratory.
- Do not modify cords or use them incorrectly.
- Use factory-assembled cord sets and extension cords that are 3-wire type.
- Use cords, connection devices, and fittings equipped with strain relief.
- Remove cords from receptacles by pulling on the plugs, not the cords.

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Equipment

Due to the dynamic, rugged nature of construction work, normal use of electrical equipment causes wear and tear that results in insulation breaks, short-circuits, and exposed wires. If there is no ground-fault protection, it can cause a ground-fault that sends current through a worker's body.

Use ground-fault circuit interrupters (GFCIs) on all 120-volt, single-phase, 15- and 20-ampere receptacles that are not on an existing building's permanent wiring, or have an assured equipment grounding conductor program (AEGCP).

- Use double-insulated tools and equipment, distinctively marked.
- Visually inspect all electrical equipment before use. Remove from service any equipment with frayed cords, missing ground prongs, cracked tool casings, etc.

Electrical Incidents

If the power supply to the electrical equipment is not grounded or the path has been broken, fault current may travel through a worker's body, causing electrical burns or death. Visually inspect electrical equipment before use. Take any defective equipment out of service.

- Ground all power supply systems, electrical circuits, and electrical equipment.
- Frequently inspect electrical systems to ensure that the path to ground is continuous.
- Do not remove ground prongs from cord- and plug-connected equipment or extension cords.
- Use double-insulated tools and ground all exposed metal parts of equipment.
- Avoid standing in wet areas when using portable electrical power tools.

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Workers' Rights

Workers' have the right to:

- Working conditions that do not pose a risk of serious harm.
- Receive information and training (in a language and vocabulary the worker understands) about workplace hazards, methods to prevent them, and the OSHA standards that apply to their workplace.
- Review records of work-related injuries and illnesses.
- File a complaint asking OSHA to inspect their workplace if they believe there is a serious hazard or that their employer is not following OSHA's rules. OSHA will keep all identities confidential.
- Exercise their rights under the law without retaliation, including reporting an injury or raising health and safety concerns with their employer or OSHA. If a worker has been retaliated against for using their rights, they must file a complaint with OSHA as soon as possible, but no later than 30 days.

How can you get more information?

OSHA has various publications, standards, technical assistance, and compliance tools to help you, and offers extensive assistance through its many safety and health programs.

For more information, visit:
https://osha.llr.sc.gov

Programs include: workplace cosultation, voluntary protection programs, grants, strategic partnerships, state plans, training, and education. Guidance such as OSHA's Safety and Health Management Program Guidelines identify elements that are critical to the development of a successful safety and health management system. This and other information are available on OSHA's website at www.osha.gov.

For additional information on programs available in South Carolina, please visit **www.scosha.llronline.com**