



Tailgate/Toolbox Safety Training

Safety Services Company-Safety Meeting Division, PO Box 6408 Yuma, AZ 85366-6408 Toll Free (866) 204-4786



Company Name: _____ Job Site Location: _____
 Date: _____ Start Time: _____ Finish Time: _____ Foreman/Supervisor: _____

Topic 338: Portable Generator Safety

Introduction: Portable generators are a necessary piece of equipment to supply temporary or remote electric power. Generators can be hazardous if not operated and maintained with caution. The primary hazards associated with portable generators are carbon monoxide poisoning from exhaust fumes, electric shock or electrocution, and fire. While working with the larger trailer mounted generators, moving parts pose additional hazards which require proper lockout/blockout-tagout procedures. Following are guidelines for portable generator safety:

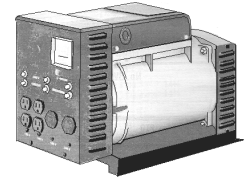
OSHA requirements for mobile power generating equipment:

Power cable connections to mobile machines:

- * A metallic enclosure must be provided on the generator for enclosing the power cable terminals.
- * The enclosure must include provisions for a solid connection for the ground wire(s) terminal to effectively ground the machine frame.
- * The method of cable termination used must prevent any strain or pull on the cable from stressing the electrical connections.
- * The enclosure must be locked so only authorized personnel may open it, and marked with a sign warning of the presence of energized parts.

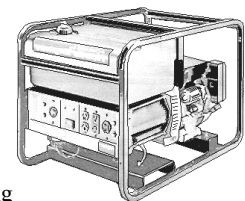
Guarding live parts:

- * All energized switching and control parts must be enclosed in effectively grounded metal cabinets or enclosures.
- * Circuit breakers and protective equipment must have the operating mechanism projecting through the metal cabinet or enclosure so the units can be reset without the locked doors being opened.
- * Enclosures and metal cabinets must be locked so that only authorized qualified persons have access, and marked with a sign warning of the presence of energized parts.



General safety guidelines for operating generators:

- **Employers must ensure** that personnel who operate or maintain generators are properly trained to safely accomplish the work assigned.
- **Employees exposed** to energized parts of the generator must be equipped with the proper personal protective equipment.
- **Generators must be** properly grounded either to their frame or to a grounding rod driven into the earth.
- **If not incorporated** into the generator by the manufacturer, an external ground fault circuit interrupter (GFCI) should be used between the generator and electrical device, extension cord, etc.
- **Never operate a generator** in an enclosed area or in close proximity to an enclosed occupied excavation such as a drilled shaft hole or bell bottom pier hole, as exhaust fumes may seep into these areas. Make sure adequate ventilation is provided for safe operation.
- **A fire extinguisher** should be available at all times.
- **If direct wiring** connections to equipment are required, ensure that only qualified electricians or competent persons perform these tasks.
- **Do not adjust** engine speed governing devices beyond the manufacturer's recommendation.
- **Do not overload** the rated power capacity of the generator.
- **Open major circuits** to connected equipment before starting the generator. Wait until the generator is operating at speed before closing circuits.
- **Ensure that all equipment** supplied by the generator have the power controls turned off at the equipment before closing the supplying circuit from the generator to the equipment.
- **Do not fuel generators** while running or while the engine is hot. Schedule refueling between or after shifts when power is not required. Do not allow fuel to overflow.
- **Keep the generator** in a dry sheltered area. Do not use the generator in rain or wet conditions. Dry your hands before touching the generator.
- **Plug equipment directly** into the generator. If extension cords are used, use heavy duty cable rated at least equal to the sum off all connected equipment loads. Check all cable or cords for proper grounding connection, and for cuts, abrasions, or other damage before use.
- **Never try to power** an existing house or structure by plugging the generator directly into a wall outlet. This practice, known as "backfeeding", is extremely dangerous. It bypasses the built-in circuit protection devices, and can cause electrocution to utility workers and neighboring structure occupants served by the same transformer.
- **Personnel performing maintenance** on generators must be properly trained, and use the correct lockout/blockout-tagout procedures for the task performed. Do not perform maintenance on machinery while it is running
- **All electrical generators** and electrical switch gear must be kept a minimum distance of 25 feet from any explosives storage magazine.



Conclusion: Portable generators come in varied sizes with a large range of generating capacities. From small units which supply only enough power to run a few household appliances or power tools, to extremely large high voltage generators which supply enough power to meet the needs of major production plants or heavy machinery. These large generators require additional training to deal safely with the unique requirements of high voltage hazards.



Work Site Review

Specific Work-Site Hazards and Safety Suggestions: _____

Personnel Safety Violations: _____

Employee Signatures: _____
 (My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)

Foreman/Supervisor's Signature: _____
 These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations.