

1.1 PURPOSE

- 1.1.1 The purpose of this policy is to establish assured grounding procedures and guidelines for TERRY R PITT CONSTRUCTION to eliminate injuries resulting from possible malfunctions, improper grounding, and/or defective electrical cords.

1.2 RESPONSIBILITIES

1.2.1 Competent person

- 1.2.1.1 Identify existing and predictable hazards in the surrounding area
- 1.2.1.2 Identify working conditions that are unsanitary, hazardous, or dangerous to workers
- 1.2.1.3 Authorized to take prompt corrective measures to eliminate them
- 1.2.1.4 Responsible for tests on all cord sets and receptacles that are not a part of permanent building or structure wiring, and cord and plug connected equipment repaired to be grounded
- 1.2.1.5 Designated to implement the assured equipment grounding conductor program

1.2.2 Supervisor

- 1.2.2.1 All operations are in compliance with relevant rules and regulations
- 1.2.2.2 Personnel are properly trained as appropriate for their positions and responsibilities
- 1.2.2.3 Make available appropriate equipment to secure high safety and quality performance
- 1.2.2.4 Conduct maintenance according to schedule and inspections at appropriate intervals

1.2.3 Employee

- 1.2.3.1 Perform risk assessment and job safety analysis
- 1.2.3.2 Follow manufacturer's recommended guidelines
- 1.2.3.3 Has Stop Work Authority

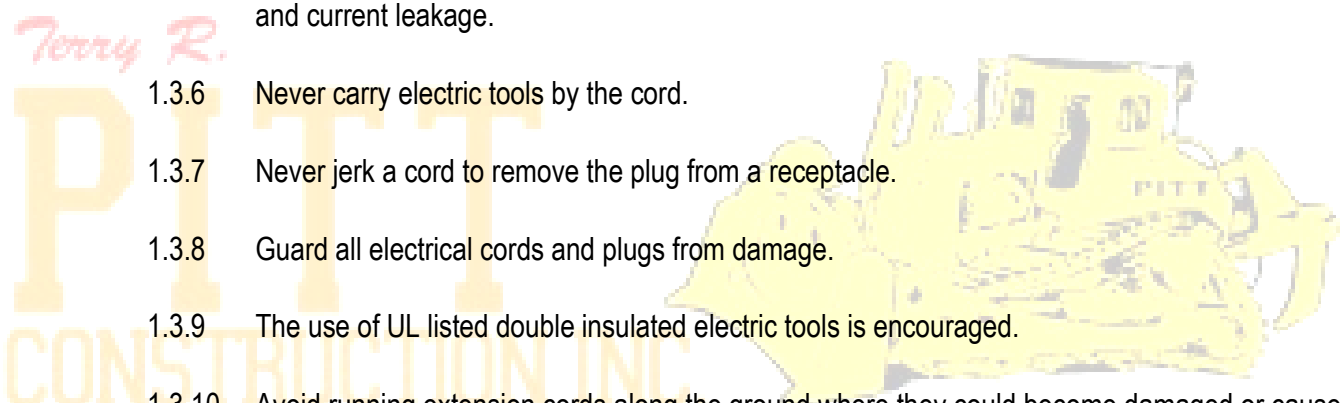
1.3 GENERAL SAFETY

- 1.3.1 TERRY R PITT CONSTRUCTION will establish and implement an assured equipment grounding conductor program on construction sites covering all cord sets, receptacles which are not a part

Assured Grounding/GFCI

of the permanent wiring of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. This policy will apply to all construction sites not equipped with ground fault circuit interrupters in accordance with OSHA standard 1926.400. TERRY R PITT CONSTRUCTION has the option to submit the written Electrical program in lieu of the assured grounding program if ground fault circuit interrupters (GFCIs) are utilized and addressed in the written Electrical program.

- 1.3.2 TERRY R PITT CONSTRUCTION will designate one or more competent persons as defined in 29 CFR 1926.32(f) to implement the assured grounding program.
- 1.3.3 All electrical equipment used in hazardous locations will be approved for Class 1, Division 1 use, as outlined in the National Electric Code and OSHA regulations.
- 1.3.4 Electrical cords and plugs must be inspected before each use for damage and removed from service if damage is detected.
- 1.3.5 All portable equipment must be plugged into a GFCI receptacle to protect the user against shorts and current leakage.
- 1.3.6 Never carry electric tools by the cord.
- 1.3.7 Never jerk a cord to remove the plug from a receptacle.
- 1.3.8 Guard all electrical cords and plugs from damage.
- 1.3.9 The use of UL listed double insulated electric tools is encouraged.
- 1.3.10 Avoid running extension cords along the ground where they could become damaged or cause a tripping hazard.
- 1.3.11 Never stand in water when using an electrical appliance.
- 1.3.12 Portable electrical extension cables will not exceed 98 feet in length.
- 1.3.13 When possible, electric cables will be routed overhead to prevent tripping hazards and to minimize damage to the cables and to other equipment. Cables that must be run across the ground/deck will be protected from damage while not creating a trip hazard for personnel.
- 1.3.14 All portable electric equipment and cables will be inspected prior to use. Any equipment that has not met the requirements of this program will not be available or permitted to be used. Damaged items will not be used until repaired.



Assured Grounding/GFCI

- 1.3.15 Employees and subcontractors must not use electrical equipment that can create sparks or be sources of ignition near flammable gases or liquids. If electrical equipment must be used in these areas, only explosion proof or intrinsically safe equipment and tools will be used.
- 1.3.16 Portable electric equipment will be registered and have an inspection tag attached. Employees discovering portable electrical equipment in such a condition will tag this equipment as *OUT OF SERVICE* and report the condition to an immediate supervisor.
- 1.3.17 Only competent personnel are permitted to undertake maintenance, installation, and repair of electrical equipment and will follow the appropriate lockout/tagout procedure.
- 1.3.18 Report electrical shocks to the immediate supervisor and the safety department for investigation.
- 1.3.19 Conductive items of clothing or jewelry will not be worn unless they are rendered nonconductive by covering, wrapping, or other means of insulation.
- 1.3.20 Handling of long dimensional conductor objects requires the installation of guards, insulation, and material handling techniques to minimize exposure hazards.
- 1.3.21 All efforts will be taken to de-energize and ground overhead lines.

1.4 ASSURED GROUNDING PROCEDURES

- 1.4.1 TERRY R PITT CONSTRUCTION will have a written description of their assured equipment grounding program at each jobsite that includes specific procedures.
- 1.4.2 If a permanently wired receptacle (not equipped with GFCI protection) is used for temporary electric power in a construction project, GFCI protection must be provided at the user end. Portable plug in and cord type GFCIs are probably the most practical devices for workers who use cord sets for temporary power when there is no protection at the source.
 - 1.4.2.1 Protection is a function or state, not equipment. If there is effective protection for the worker, location of equipment that provides protection is not important.
- 1.4.3 GFCI protection may be anywhere on the circuit as long as it works effectively to protect the worker. Protection may be for the entire circuit, the outlet receptacle, or the extension cord.
- 1.4.4 GFCI can be critical to workers in wet environments. The rule for GFCI does not exempt work with intrinsically safe or double insulated tools.
- 1.4.5 For receptacles with more than 125 volts, single phase, or more than 30-amp capacity, use GFCI protection or have a program that assures equipment is grounded.
 - 1.4.5.1 Equipment grounding conductors will be tested for continuity and will be electrically continuous.

- 1.4.5.2 Electrical equipment will be suitably earthed/grounded. Where it cannot be earthed/grounded, it will be double insulated.
- 1.4.6 All portable electrical distribution outlets used for hand tools will comply with 29 CFR 1926.404 Wiring Design and Protection as a minimum. This will include the use of Earth Leakage Protection Devices (ELPD) or GFCIs.
- 1.4.7 Only competent personnel are permitted to operate machinery, to start and operate electrically driven equipment and to energize or de-energize electrical circuits or switchboards.
- 1.4.8 Protective shields, protective barriers, or insulating materials will be used when working in confined or closed work spaces where electrical hazards may exist.

1.5 INSTALLATION

- 1.5.1 All 120-volt, single phase, 15- and 20- ampere receptacles will be of the grounding type and their contacts will be grounded by connection to the equipment grounding conductor of the circuit supply receptacle in accordance with the applicable requirements of the National Electrical Code.
- 1.5.2 All 120-volt cord sets (extension cords) will have an equipment grounding conductor which will be connected to the grounding contacts of the connector(s) on each end of the cord.
- 1.5.3 The exposed concurrent carrying metal parts of the 120-volt cord and plug connected tools and equipment that are likely to become energized will be grounded in accordance with the applicable requirements of the National Electrical Code.
- 1.5.4 Approach distances will be set for unqualified employees – 20 feet, see Table A of 1926 Subpart CC. When a qualified person is working in the vicinity of overhead lines, whether in an elevated position or on the ground, the person may not approach or take any conductive object without an approved insulating handle closer to exposed energized parts than shown in Table A of 1926 Subpart CC unless:
 - 1.5.4.1 The person is insulated from the energized part (gloves, with sleeves if necessary, rated for the voltage involved are considered to be insulation of the person from the energized part on which work is performed).
 - 1.5.4.2 The energized part is insulated both from all other conductive objects at a different potential and from the person, or the person is insulated from all conductive objects at a potential different from that of the energized part.

1.6 INSPECTIONS

1.6.1 A daily inspection will be made of the following electrical equipment to determine any external defects or indications of internal damage prior to use:

1.6.1.1 Cord sets

1.6.1.2 Attachment cap

1.6.1.3 Plug and receptacle of cord sets

1.6.1.4 Any equipment connected by cord and plug, with the exception of cord and plug sets that are fixed and not exposed to damage such as deformed or missing plugs or insulation damage.

1.6.2 A daily visual inspection will be made of the following to determine any external defects or indications of internal damage prior to use:

1.6.2.1 Damaged items will not be used until repaired.

1.6.2.2 Make an effort to prevent cables from being kinked, knotted, cut, or crushed.

1.6.2.3 Do not use cables where they are exposed to heat, chemicals, or moisture unless they are specially designed for such conditions.

1.6.2.4 Do not remove ground/earth wires from portable extension cables.

1.6.3 Any equipment deemed damaged will be tagged *DO NOT USE* and will be removed from service and either repaired and tested or discarded. Any equipment that has not met the requirements of this program will not be available or permitted to be used. Damaged items shall not be used until repaired.

1.6.4 Equipment that has not been inspected and found to be in proper working order will not be used on any worksite.

1.7 TESTING EQUIPMENT

1.7.1 Equipment used to conduct the required testing may consist of the following approved devices:

1.7.1.1 Continuity tester (lamp and battery/bell and battery)

1.7.1.2 Ohmmeter

1.7.1.3 Receptacle tester

1.8 TESTING SCHEDULE

- 1.8.1 Each receptacle and attachment cap or plug will be tested for correct attachment of the equipment grounding conductors. The equipment grounding conductor will be connected to its proper terminal:
 - 1.8.1.1 Before each use
 - 1.8.1.2 Before equipment is returned to service following any repairs
 - 1.8.1.3 Before equipment is used following any incident that damaged or had the potential to damage the cord
 - 1.8.1.4 At intervals not to exceed 3 months
- 1.8.2 The testing must include:
 - 1.8.2.1 All equipment grounding conductors tested for continuity and electrically continuity.
 - 1.8.2.2 Each receptacle and attachment cap or plug tested for correct attachment of the equipment grounding conductors.
 - 1.8.2.3 The equipment grounding conductor connected to its proper terminal.
- 1.8.3 Cords, plugs, and receptacles that are fixed and not exposed to damage will be tested at intervals not to exceed 6 months.

1.9 RECORDKEEPING AND TAGGING

- 1.9.1 Tests performed as required by this program will be recorded with the identity of each receptacle, cord set, and cord with plug. Records will be kept of equipment that passed the test and will indicate the last date tested or interval for which it was tested.
- 1.9.2 This record will be kept by means of logs, color coding, or other effective means and will be maintained until replaced by a more current record. These records will be made available at the jobsite for inspection.
- 1.9.3 Tests conducted according to this procedure will be recorded, showing the following information:
 - 1.9.3.1 Identity of each receptacle, cord set, and cord and plug connected equipment.
 - 1.9.3.2 All information will be kept on *Inspection Log* sheets, at the worksite, and will be available for inspection by the assistant secretary and any affected employees.

1.9.3.3 Equipment tested and found in compliance with this procedure will be identified by a tag, which shows the following information:

1.9.3.3.1 Date of inspection

1.9.3.3.2 Name of inspector

1.9.4 Management retains the authority to designate that certain jobs comply with regulation 1926.400 by use of ground fault circuit interrupters in lieu of the program established above. A copy of the completed forms will be kept on each applicable jobsite for inspection purposes.

1.9.5 This policy will be available for inspection and copy by OSHA officials and any affected employee.

1.10 TRAINING

1.10.1 Employees will be trained in safety related work practices that pertain to respective job assignments.

1.10.2 If ground fault circuit interrupters cannot be used, then one or more competent person(s) must be trained and designated to carry out the electrical safety.

1.10.3 All employees and contractors authorized and assigned to work on electrical circuits will be trained and prepared to perform cardiopulmonary resuscitation (CPR).

