

JAGUAR ENERGY SERVICES, LLC 310 N Parkerson Ave Crowley, LA 70526 Original Date of Implementation: October 2013 New Effective Date: Reviewed By: Jared Monk	Assured Grounding Plan Revision Date: Page 1 of 8 Date: 01/10/2022
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Section 46.0 ASSURED GROUNDING

A. Purpose

JAGUAR ENERGY SERVICES, LLC has established the following Assured Grounding Conductor Protecting Program to protect their employees, other personnel who may be in the work area and minimize the possibility of any kind of an accident resulting from the improper use or installation of electrical equipment.

1. This procedure applies to construction sites, such as during the installation, and start-up and any job site or work activity that requires use of plug and cord connected tools or equipment.
 - (a) These construction worksites are subject to state, federal, or client regulations.
 - (b) It has been developed to comply with OSHA 29 CFR 1926.954.

B. Scope

National Electrical Code - Sections 210-7 (c), 250-45, 250-59 & 305-2 (d) will be used to ensure the proper installation, maintenance, inspection, and testing of equipment grounding conductors of construction sites to prevent injuries due to electrical ground faults.

1. This program will apply to all electrical equipment, cord sets, and receptacles that are not a permanent part of a building, structure, or facility which are available for use by our employees.
2. This procedure also defines **JAGUAR ENERGY SERVICES, LLC's** requirements regarding assured grounding and the use of ground fault circuit interrupters (GFCI's).
 - (a) It specifies inspection procedures necessary to prevent shock, fires, or explosions from damaged electrical equipment.

C. Responsibilities

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1. The Safety Coordinator or his/her designee is responsible for ensuring that employees have completed the training required by this procedure.
 - (a) Additional responsibilities include:
 - (i) The implementation of this Policy.
 - (ii) Take corrective actions on all violations or suspected violations of this procedure.
 - (iii) Documentation of completion by each employee.

2. The Supervisor is responsible for providing assistance in the implementation of this policy.
 - (a) Additional responsibilities include:
 - (i) Informing the Safety Director of any incidents involving injury from electricity.
 - (ii) Making suggestions to management for ways to improve this Policy.

3. **JAGUAR ENERGY SERVICES, LLC** personnel are responsible for inspecting electrical cords and electric power tools prior to each use and conducting more formal quarterly inspections.
 - (a) Additional responsibilities include:
 - (i) Ensuring that they follow the assured grounding program.
 - (ii) Use Ground Fault Circuit Interrupters according to the requirements of this procedure.

D. Procedure

A written description of this program, including the specific procedures adopted by **JAGUAR ENERGY SERVICES, LLC**, will be available at the job site for inspection and copying by the Assistant Secretary and any affected employee.

1. Introduction

When improperly used or poorly maintained, electrically operated tools and power cords can cause electrocution, explosions, fires and serious injury or death.

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- (a) Insulation and grounding are two recognized means of preventing injury or death when working with electrical equipment.
- (b) Protection against ground faults can be achieved by:
 - (i) Use of double insulated (non-metallic case) electric tools and equipment that have three wires.
 - (ii) The third wire being a dedicated equipment ground.
 - (iii) Use of ground fault circuit interrupters (GFCI).
- (c) Note that circuit breakers and fuses are designed to protect equipment not humans.
- (d) Cord and plug connected equipment and extension cords are most vulnerable to damage because they are subjected to the stresses of twisting, coiling and strain.
 - (i) They can be damaged on the job by sharp objects, abrasions, moving or rolling equipment, or simply from aging.

2. **Grounding**

- (a) Electrical equipment and wires must be grounded.
- (b) **JAGUAR ENERGY SERVICES, LLC** personnel will use an assured grounding conductor program or GFCI's when using plug and cord connected equipment.
- (c) Permanently wired receptacles that are used for a temporary power supply shall also be GFCI protected.
- (d) All extension cords must be protected by a GFCI even when they are plugged into properly grounded permanent wiring.
- (e) All exposed non-current carrying metal parts of cord and plug connected equipment that may become energized must be grounded if used in a hazardous location or if operated over 150 volts to ground (unless the equipment frames are permanently and effectively insulated from ground).
- (f) Cord and plug connected equipment (except for double insulated equipment) must be grounded and protected with a GFCI when used under the following conditions:
 - (i) Wet environments.
 - (ii) Working inside of a confined space such as an air inlet or boiler.
 - (iii) Working while standing on the ground or a metal floor covering.

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- (g) Avoid placing electrical cords in standing water or where there is the probability that water puddles will develop.

3. **Protect Against Reverse Polarity**

- (a) Polarity of connections must be maintained.
- (b) Employees must be sure that the ground wire is not connected to a terminal or lead.
- (c) The ground wire must be used for the purpose of grounding.
- (d) The path to ground must be permanent and continuous

4. **Ground Fault Circuit Interrupters**

- (a) All 120 volt, 15 and 20 amp or 240 volt 50 hertz receptacles that are not a part of the permanent wiring of a building must be GFCI protected.
- (b) The permanent wiring must be grounded by connection to the equipment grounding conductor of the circuit supplying the receptacles.
- (c) Permanently installed receptacles that are part of the permanent wiring and are used for temporary power shall also be GFCI protected.
 - (i) Any tripping of a GFCI should be investigated to determine the cause.
- (d) Faulty GFCI's must be tagged **DO NOT OPERATE** and taken out of service until repairs have been made by a qualified person.
 - (i) If it is not feasible or economically justifiable to repair the equipment, it shall be replaced.

5. **Inspections**

All cord sets and electric tools will be tested and inspected by a qualified person.

- (a) Daily and prior to each use, **JAGUAR ENERGY SERVICES, LLC** personnel will conduct a visual inspection of the following to determine any external defects or indications of internal damage.

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- (i) Cord sets
 - (ii) Attached cap and plug
 - (iii) Plug and receptacle of any cord sets
 - (iv) Any other equipment connected by cord and plug with damage such as deformed or missing plug or insulation damage.
 - (i) With the exception of cord sets and receptacles which are fixed and not exposed to damage.
- (b) Damaged cords will be removed from service and tagged **DO NOT USE** until repairs have been made by a qualified person.
 - (i) If it is not feasible or economically justifiable to repair the equipment, it shall be replaced.
- (c) Inspections of cord sets and receptacles, which are not part of the permanent wiring, and cord and plug connected equipment will include the following elements:
 - (i) All equipment grounding conductors shall be tested for continuity and must be electrically continuous.
 - (ii) Each receptacle and attachment cap or plug shall be tested for correct attachment of the equipment grounding conductors.
- (d) The equipment ground conductor must be connected to its proper terminal and inspected and tested according to the following schedule:
 - (i) Before each use.
 - (ii) Before equipment is returned to service following any repairs.
 - (iii) Before equipment is returned to use after the cord has been run over.
 - (iv) At intervals not to exceed 3 months, except that a cord set and receptacles, which are not fixed and not exposed to damage shall be tested at intervals not to exceed 6 months.
- (e) Quarterly inspections will include the following tests:
 - (i) Introduction of a ground fault into the circuit using a commercially available GFCI tester in accordance with manufacturers suggested procedures for the test.
 - (ii) Testing of the test button for the circuit.
 - (i) Note that test buttons may trip the device but may not provide the protection intended if the breaker is faulty or incorrectly wired.

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6. Test Equipment

Test Equipment in service will be tested with a receptacle circuit tester.

- (a) Equipment out of service will be tested with a continuity tester.

7. Verification of Testing

Tests performed as required by this program shall be recorded as to identify:

- (a) The brand
- (b) Model
- (c) Serial number of the device
- (d) Inspector
- (e) Date tested or interval for which was tested.
- (f) This record shall be kept by the following color code:

Quarterly			
Jan-Mar	White	Apr-Jun	Blue
Jul-Sep	Green	Oct-Dec	Red

- (a) Use colored tape to identify tested cords and equipment.
- (b) These records shall be made available at the job site for inspection or copying by the Assistant Secretary or any affected employee.

- 2. **JAGUAR ENERGY SERVICES, LLC** will not make available or permit the use by employees any equipment which has not met the requirements of this program.

3. Labeling Requirements

All plug and cord connected equipment must be labeled with:

- (a) The manufacturer's name
- (b) Voltage
- (c) Current wattage
- (d) Other ratings
- (e) Warnings

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B. Training Requirements

1. **JAGUAR ENERGY SERVICES, LLC** personnel will be trained on the following topics prior to working with electrical cords and power tools:
 - (a) Completing field inspections of electric power cords and tools.
 - (b) Assessing proper grounding and use of GFCI's.
 - (c) The contents of this procedure.
2. Qualified persons must be trained on proper testing and inspection procedures for GFCI's.
 - (a) These individuals must also have specific experience or education on how to properly repair damaged electrical equipment.

C. Training Frequency

1. **JAGUAR ENERGY SERVICES, LLC** personnel will be trained according to the following schedule:
 - (a) Initially upon hire.
 - (b) As necessary thereafter.
2. Qualified persons must complete the electrical safety assured grounding training, plus training on the operation, inspection and testing of electrical equipment.

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GROUND FAULT TEST RECORD LOG

I.D. Number	Description	Test Interval or Date	Results [Pass/Fail]