



Industrial Performance Services

Industrial Tubular Catalyst Services

GROUND FAULT PROTECTION PROCEDURE

V:2023.1

Ground Fault Protection Procedure

January 2023

Purpose

The purpose of this program is to provide procedures and guidelines to eliminate all injuries resulting from possible malfunctions, improper grounding and/or defective electrical tools. This program applies to all sites, employees and contractors and shall be used on owned premises.

Definitions

Competent Person - one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

Ground Fault Circuit Interrupter - a device for the protection of personnel that functions to de-energize a circuit or portion thereof within an established period of time when a current to ground exceeds some predetermined value that is less than that required to operate the overcurrent protective device of the supply circuit.

Responsibilities

Supervisors are designated as competent persons for the Assured Equipment Grounding Conductor Program and are responsible for implementation. One or more competent persons must be designated (as defined in 1926.32(f)) to implement the program (see definitions).

Employees are responsible for following the requirements of this program, to perform visual inspections and to take defective equipment out of service.

Procedure

Assured Grounding

OSHA requires that employers shall use either ground fault circuit interrupters (GFCI) or an assured equipment grounding conductor program to protect personnel from electrical shock while working.

- Industrial Performance Services shall use GFCI's in lieu of an assured grounding program.

Ground Fault Circuit Interrupters

All 120-volt, single-phase 15 and 20 ampere receptacle outlets on construction or maintenance sites, which are not part of the permanent wiring of the building or structure, and which are in use by employees, shall have approved ground fault circuit interrupters for personnel protection.

- All hand portable electric tools and extension cords shall use a GFCI.
- Additionally, approved GFCI's shall be used for 240-Volt circuits in the same service as described above.
- GFCI's must be used on all 120-volt, single-phase 15-amp and 20-amp receptacles within 6 feet of a sink, damp areas or on installed outdoor equipment.
- The GFCI must be the first device plugged into a permanent receptacle.
- The GFCI must be tested before each use.

Assured Equipment Grounding Conductor Program

The Assured Equipment Grounding Conductor Program (AEGCP) shall cover all cord sets, receptacles not a part of the permanent wiring of a structure and equipment connected by cord and plug on all construction and maintenance sites.

This written description of the program shall be kept at the jobsite for inspection and copying by OSHA and any affected employee.

Removing Equipment:

- Any equipment which has not met the requirements of this program shall not be available or permitted to be used. Damaged items shall not be used until repaired.

Daily Visual inspections – The following shall be visually inspected before each day's use for external defects (such as deformed or missing pins or insulation damage) and for indication of possible internal damage:

- Cord sets.
- Attachment caps.
- Plug and receptacle of cord sets.
- Any equipment connected by cord and plug (with the exception of cord sets and receptacles which are fixed and not exposed to damage) such as deformed or missing plug, and
- Insulation damage
- Damaged items shall not be used until repaired or discarded.

Continuity Testing – Testing must ensure continuity and electrically continuous. The tester shall use either a continuity tester or an ohmmeter for testing equipment grounding conductors on the following:

- All cord sets.
- Receptacles that are not a part of the permanent wiring of the building or structure; and
- All plug-connected equipment required to be grounded.

Grounding Conductor Testing – The tester shall use either a continuity tester or an ohmmeter for testing. Each receptacle and plug of the following shall be tested for correct attachment of the equipment grounding conductor and the equipment grounding conductor shall be connected to its proper terminal:

- All cord sets.
- Receptacles that are not a part of the permanent wiring of the building or structure; and
- All plug-connected equipment required to be grounded.

Test Frequency – All required tests shall be performed with the following frequency:

- Before first use.
- Before equipment is returned to service following any repairs.
- Before equipment is used after any incident that can be reasonably suspected to have caused damage; and
- At intervals not to exceed 3 months, except that cord sets and receptacles that are fixed and not exposed to damage shall be tested at intervals not to exceed six months.

All tests shall be documented to identify each receptacle, cord set and cord and plug-connected equipment that passed the test, the date of the test and the individual responsible for the test. Records shall be made available at each job site for inspection by employees and OSHA.

All tested cord sets and cord and plug-connected equipment shall be marked, one or both ends, with colored tape to denote the month that the tests were performed. The below color code chart that must be followed for marking.

Monthly Color Code (Where applicable)

Month #	Month	Color of Tape to Apply to Cords
1	Jan	White
2	Feb	White + Yellow
3	Mar	White + Blue
4	Apr	Green
5	May	Green + Yellow
6	Jun	Green + Blue
7	Jul	Red
8	Aug	Red + Yellow
9	Sept	Red + Blue
10	Oct	Orange
11	Nov	Orange + Yellow
12	Dec	Orange + Blue

Quarterly Color Code (Where Applicable)

Quarter #	Month(s)	Color of Tape to Apply to Cords
1	January - March	White (Winter)
2	April - June	Green (Spring)
3	July - September	Red (Summer)
4	October - December	Orange (Fall)

Competency Assessment

No.	Questionnaire	C/NYC
Q1		
A1		
Q2		
A2		
Q3		
A3		
Q4		
A4		
Q5		
A5		

Enclosed Attachments	
Risk Assessment	<input checked="" type="checkbox"/>
Environmental Aspect and Impact	<input checked="" type="checkbox"/>
Training and Competency	<input checked="" type="checkbox"/>
Measure and Evaluation Tools	<input checked="" type="checkbox"/>

Competency Checklist

To be filled out by Trainer and signed by Employee, Assessor and Supervisor before being returned to the HSEQT Co-ordinator for recording purposes.

Procedure	Competency	Date	Competent YES / NO	Employee Signature

(Please tick appropriate box)

This employee is competent in performing the job.

This employee has not attained the competency level.

*

* *If the employee has not attained all competency levels, the Regional Manager must assess the action to be taken, provide an extension of training or alternative action as listed below.*

Alternate action to be taken: _____

Signed By	Employee:	_____	Date:	_____
	Trainer:	_____	Date:	_____
	Assessor:	_____	Date:	_____
	Regional Manager:	_____	Date:	_____

Environmental Aspects and Impacts

Identified Environmental Aspects and Impacts

The following table is a summary of the likely environmental aspects and impacts that may be identified during site inspections. The significance of each impact needs to be assessed using the Risk Assessment Model.

Activity	Aspect	Impact
Purchasing & Administrative Work	Consumption of goods	Conservation of natural resources
	Consumption of energy (eg. Electrical equipment and facilities)	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of waste (eg. Paper)	Consumption of space for waste disposal; Habitat loss
Climate Control	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Habitat loss
	Generation of noise	Disturbance to community; Habitat loss
Cleaning of – offices / vehicles	Storage, use and release of chemicals	Contamination of air, water or soil; Risk to human health
Transport (Fleet vehicles / staff travel)	Consumption of energy	Release of greenhouse gases and atmospheric pollution; Consumption of natural resources; Loss of habitat at all stages of generation; Light pollution
	Consumption of goods (eg. Oil)	Consumption of natural resources; Generation of waste; Habitat loss; Biodiversity impacts
	Generation of waste (eg. Oil)	Consumption of space for waste disposal; Potential contamination of water or soil; Habitat loss
	Exhaust emission	Release of greenhouse gases and atmospheric pollution
	Use of dangerous goods (eg. Batteries)	Potential contamination of air, water or soil; Risk to human health
	Generation of noise	Disturbance to community; Habitat degradation
Operations		

Sample only.
To be filled in

Risk Assessment

Risk Assessment // insert name here

Step No: Logical sequence	Sequence of Basic Job Steps documented in the Procedure, Work Instruction and project plans. Break down Job into steps. Each step should be logical and accomplish a major task.	Potential Safety & Environmental Hazards/Impacts at the site of the Job Identify the actual and potential health and safety hazards and the environmental impacts associated with each step of the job.	Risk Rating Refer to the risk matrix or HSEQT.PRO. Risk Mgt	Recommended Corrective Action or Procedure <i>Determine the corrective actions necessary to reduce the risk to as low as reasonably practical (ALARP) refer to HSEQ.PRO.Risk Mgt. The risk must be rediced or controlled to ALARP before work commences.</i> Document who is responsible for implementing the controls to manage each hazard identified.	Risk Rating refer to the risk matrix or HSEQT.PRO.Risk Mgt
1.					
2.					
3.					
4.					
5.					

Audit



Process: insert// Procedure: Insert //		Date:	Audited by:	
		Location of Audit:	Area Mgr/Supervisor:	
Item	Question	Evidence Sited	Comments	Conformance Score 0,3,5
1.				
2.				
3.				
4.				
5.				
6.				
7.				
AUDITOR'S SIGNATURE:		CONFORMANCE SCORE: / 25		0 – Non-Conformance 3 – Continuous Improvement Opportunity 5 – Total Conformance
SAFETY REP'S SIGNATURE:		CONFORMANCE %:		