

<b>HOUSTON CONTROLS</b>  <i>Instrument, Electrical, Analytical Specialists</i>	Houston Controls, Inc Safety Management System		Doc No:	ASSURED
			Initial Issue Date:	3/08/2008
			Revision Date:	3/16/2011
<b>ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM/ GROUND FAULT CIRCUIT INTERRUPTER</b>			Revision No.:	1
			Next Revision Date:	3/16/2012
Preparation: Safety Mgr	Authority: Dennis Johnston	Issuing Dept: Safety	Page:	Page 1 of 3

## Purpose

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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

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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

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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

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### 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.

- Houston Controls, Inc 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.

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- 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:

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- 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.

Month #	Month	Color of Tape to Apply to Cords
1	Jan	Red
2	Feb	Yellow
3	Mar	Green
4	Apr	Blue
5	May	Brown
6	Jun	White
7	Jul	Start over with Red and repeat