

<b>HOUSTON CONTROLS</b>  <i>Instrument, Electrical, Analytical Specialists</i>	Houston Controls, Inc Safety Management System		Doc No:	ASBAW
			Initial Issue Date	3/08/2008
			Revision Date:	3/16/2011
			Revision No.	1
<b>ASBESTOS AWARENESS</b>			Next Revision Date:	3/16/2012
			Preparation: Safety Mgr	Authority: Dennis Johnston

## Purpose

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The purpose of this procedure is to advise employees in areas where asbestos is suspected on an awareness level basis about the properties and dangers of asbestos, general guidelines and training requirements and to provide basic precautions and protections for employees to avoid exposure to asbestos containing material (ACM) or presumed asbestos containing material (PACM).

## Scope

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This procedure applies to Houston Controls, Inc operations where employees whose work activities may be in the vicinity of asbestos containing materials during their work activities. When work is performed on a nonowned or operated site, the operator's program shall take precedence, however, this document covers Houston Controls, Inc employees and contractors and shall be used on owned premises, or when an operator's program doesn't exist or is less stringent.

## Key Responsibilities

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### Managers/Supervisors

- Ensure owners or operators are notified of PACM.
- Prohibit Houston Controls, Inc employees from working until material in question is confirmed as non-asbestos or abated.
- Ensure proper employee asbestos awareness training is completed.

### All Employees

- All employees are required to act in strict compliance with the requirements of this program and delay or discontinue work if there is ever an unresolved concern regarding exposure to asbestos.
- Immediately report any suspected asbestos containing material to their supervisor

## Awareness Level Requirements and Information

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### Asbestos Exposure Control

Depending on the exposure level Houston Controls, Inc is required to develop and train workers on an Asbestos Exposure Controls Plan.

### Background of Asbestos

The word asbestos is derived from a Greek word that means inextinguishable or indestructible. Asbestos is a naturally occurring mineral that is found throughout the world. Asbestos has several characteristics that make it desirable for many commercial uses. The fibres are extremely strong, flexible, and very resistant to heat, chemicals and corrosion. Asbestos is also an excellent insulator and the fibres can be spun, woven, bonded into other

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materials, or pressed to form paper products. For these reasons and because it is relatively inexpensive asbestos has been widely used for many years and now is found in over three thousand different commercial products.

Exposure to asbestos fibres can cause serious health risks. The major risks from asbestos come from inhaling the fibres. Asbestos is composed of long silky fibres that contain hundreds of thousands of smaller fibres. These fibres can be subdivided further into microscopic filaments that will float in the air for several hours. Asbestos fibres can easily penetrate body tissues and cause disabling and fatal diseases after prolonged exposure.

Although exposure to asbestos is potentially hazardous, health risks can be minimized. In most cases the fibres are released only if the asbestos containing materials (ACM) is disturbed. Intact and undisturbed asbestos materials do not pose a health risk. The mere presence of asbestos does not mean that the health of occupants is endangered. When ACM is properly managed, release of fibres into the air is prevented or minimized, and the risk of asbestos related disease can be reduced to a negligible level. However, asbestos materials can become hazardous when they release fibres into the air due to damage, disturbance, or deterioration over time.

The ability to recognize the kinds of material that contain asbestos, knowing under what conditions they are dangerous, and understanding basic safety precautions, are all important in keeping exposures to a minimum.

#### **Health Effects of Asbestos**

The most dangerous exposure to asbestos is from inhaling airborne fibres. The body's defenses can trap and expel many of the particles. However, as the level of asbestos fibres increase many fibres bypass these defenses and become embedded in the lungs. The fibres are not broken down by the body and can remain in body tissue indefinitely. Exposure to asbestos has been shown to cause respiratory diseases such as lung cancer, asbestosis, mesothelioma and various types of cancer of the stomach and colon.

#### **Possible Locations Where Employees May Be Exposed to Asbestos During Their Job Functions**

Asbestos materials are used in the manufacture of heat-resistant clothing, automotive brake and clutch linings, and a variety of building materials including insulation, soundproofing, floor tiles, roofing felts, ceiling tiles, asbestos-cement pipe and sheet and fire-resistant drywall. Asbestos is also present in pipe and boiler insulation materials, pipeline wrap and in sprayed-on materials located on beams, in crawlspaces, and between walls.

Client owned and/or operated equipment and facilities, where surfacing material or insulation is present, must be confirmed non-asbestos before Houston Controls, Inc employees disturb that material. Where surfacing material or insulation cannot be confirmed non-asbestos, the client or owner must test, and where necessary abate, the material before Houston Controls, Inc employees are permitted to work.

#### **Types of Asbestos**

Asbestos can be defined as friable or non-friable. Friable means that the material can be crumbled with hand pressure and is therefore likely to emit fibres. The fibrous or fluffy sprayed-on materials used for fireproofing, insulation, or sound proofing are considered to be friable and they readily release airborne fibres if disturbed.

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Materials such as vinyl-asbestos floor tile or roofing felts are considered non-friable and generally do not emit airborne fibres unless subjected to sanding or sawing operations. Asbestos cement pipe or sheet can emit airborne fibres if the materials are cut, abraded or sawed, or if they are broken during demolition operations.

### Identifying Asbestos

There are many substances that workers contact that may contain asbestos and have the potential to release fibres. Only rarely can asbestos in a product be determined from labeling or by consulting the manufacture. The presence of asbestos cannot be confirmed visually in many cases. The only way to positively identify asbestos is through laboratory analysis of samples. If the presence of asbestos is suspected always assume that it is an asbestos containing material and have it analyzed.

Employees will abide warning signs and labels and will not disturb the asbestos containing material.

Signs and labels shall identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that Asbestos Containing Material (ACM) and/or Presumed Asbestos Containing Material (PACM) will not be disturbed. Houston Controls, Inc shall ensure that employees working in and adjacent to regulated areas comprehend the warning signs.

### General Safety Precautions

The following general precautions will reduce exposure and lower the risk of asbestos related health problems:

- Drilling, sawing, or using nails on asbestos materials can release asbestos fibres and should be avoided.
- Floor tiles, ceiling tiles or adhesives that contain asbestos should never be sanded.
- Use care not to damage asbestos when moving furniture, ladders, or any other object.
- Know where asbestos is located in your work area. Use common sense when working around products that contain asbestos. Avoid touching or disturbing asbestos materials on walls, ceilings, pipes, ducts or boilers.
- All asbestos containing materials should be checked periodically for damage or deterioration. Report any damage, change in condition or loose asbestos containing material to a supervisor.
- All removal or repair work involving asbestos must be done by specially trained personnel.
- Asbestos should always be handled wet to help prevent fibres from being released. If asbestos is soaked with water or a mixture of water and liquid detergent before it is handled, the fibres are too heavy to remain suspended in the air.
- In the presence of asbestos dust above the PEL, the use of a respirator approved for asbestos work is required. A dust mask is not acceptable because asbestos fibres will pass through it.
- Dusting, sweeping, or vacuuming dry asbestos with a standard vacuum cleaner will put the fibres back into the air. A vacuum cleaner with a special high efficiency filter (HEPA) must be used to vacuum asbestos dust.
- If a HEPA vacuum is not used clean-ups must be done with a wet cloth or mop. The only exception to this would be if the moisture presents an additional hazard such as around electricity.

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Remember, the mere presence of asbestos itself does not create a health hazard unless the material is disturbed and releases fibres to the atmosphere. Protect yourself and others by being aware of where asbestos is located, the dangers involved and using common sense when working around ACM.

#### **Multiple Worksites**

Houston Controls, Inc does not want our employees exposed by asbestos work being performed by other companies. When working on multi-contractor worksites Houston Controls, Inc employees shall be protected from exposure. If employees working adjacent to Class I asbestos jobs are exposed to asbestos due to the inadequate containment of such jobs Houston Controls, Inc shall either remove the employees from the area until the enclosure breach is repaired or perform an initial exposure assessment.

#### **Personnel Air Monitoring**

Depending on the exposure level Houston Controls, Inc is required to perform air sampling.

#### **Medical Surveillance Program**

All Houston Controls, Inc employees who are exposed to asbestos at the regulated shall be included in the Houston Controls, Inc medical surveillance program.

#### **Respiratory Protection**

The only circumstances that will necessitate Houston Controls, Inc employees using respiratory equipment for protection against asbestos is during the asbestos exposure assessment process, while confirming (via personnel monitoring) that the engineering controls and work practices designed and employed for a particular work activity are adequate to maintain exposure levels below the PEL/excursion limit. Asbestos work that requires respiratory equipment beyond the PEL should be performed by a qualified contractor.

#### **Waste Disposal**

Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing shall be collected and disposed of in sealed, labeled impermeable bags of greater than 6 mils thickness or other closed, labeled, impermeable containers.

#### **Training**

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Asbestos awareness training is required for employees who work in areas that contain or may contain asbestos and Houston Controls, Inc shall ensure the training is documented.

Asbestos awareness training is required for employees whose work activities may contact Asbestos Containing Material (ACM) or Presumed Asbestos Containing Material (PACM) but do not disturb the ACM or PACM during their work activities.

Subcontractors performing work shall comply with the requirements of this standard and all applicable regulatory and environmental regulatory requirements.