

<b>CH2M HILL Hanford Group, Inc.</b>	<b>Manual</b>	<b>ESHQ</b>
<b>ASBESTOS CONTROL – FACILITY MANAGEMENT/GENERAL INDUSTRY</b>	<b>Document</b>	<b>TFC-ESHQ-IH-STD-04, REV A</b>
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<b>FUNCTIONAL AREA MANAGER:</b>		<b>T. J. Anderson</b>
<b>DOCUMENT OWNER:</b>		<b>T. J. Anderson</b>

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## 1.0 PURPOSE AND SCOPE

(5.1.3)

This standard establishes the requirements for the identification and control of asbestos hazards for work activities regulated under Occupational Safety and Health Administration (OSHA)'s General Industry standard. It also further defines the requirements incumbent upon facility managers and landlords of buildings that contain asbestos. The standard is specifically based upon OSHA 29 CFR 1910.1001, "Asbestos." This OSHA standard establishes a maximum permissible exposure limit (PEL) of 0.1 fiber/cc of air as an 8-hour time weighted average (TWA), and an excursion limit (EL) of 1.0 f/cc averaged over a sampling period of 30 minutes.

This standard applies to all non-construction activities where a potential exists for exposure to asbestos-containing material or presumed asbestos-containing materials. Examples of applicable conditions include, but are not limited to, automotive brake and clutch repair, and housekeeping activities not associated with construction. Requirements for the planning and performance of these and other activities regulated under the general industry standard are included in Section 3.0.

Facility managers or their designated building owners are to assess the condition and location of asbestos within the facility, to effectively manage asbestos hazards, and to implement hazard communication measures.

NOTE: Requirements for construction activities regulated under 29 CFR 1926.1101 are defined in [TFC-ESHQ-IH-STD-05](#).

## 2.0 IMPLEMENTATION

This standard is effective on the date shown in the header.

## 3.0 STANDARD

### 3.1 Asbestos-Containing Materials

Typical asbestos-containing materials are in one of these three categories:

1. Surfacing material: Spray-applied or troweled-on surfacing treatments installed for the purposes of fireproofing, acoustical insulation, or architectural finishes. Examples of this category include structural fireproofing and various plasters.
2. Thermal system insulation: Insulating materials associated with heating, ventilation, and air conditioning (HVAC) equipment with the purpose of reducing heat gain or loss. Examples include pipe insulation, boiler insulation, tank insulation, and duct insulation.
3. Miscellaneous materials: All remaining asbestos-containing materials used in construction which are not characterized as surfacing materials or thermal system insulation. Common examples include floor tile, electrical insulators, cement-asbestos board materials, and gasket material.

### 3.2 Presumed Asbestos-Containing Materials

(5.1.4)

1. Presumed asbestos-containing materials are all thermal system insulation and surfacing material found in buildings constructed no later than 1980. Asphalt and vinyl flooring materials installed prior to 1980 shall also be treated as asbestos-containing. Material and/or product specifications, building material application/installation dates, previous inspection results, or facility condition update reports may provide information on age of materials.
2. Designation of installed materials as presumed asbestos-containing material can only be rebutted by:
  - a. Conducting an inspection pursuant to the requirements of the Environmental Protection Agency (EPA) Asbestos Hazard Emergency Response Act (AHERA) (40 CFR 763, Subpart E) which demonstrates the material is not asbestos-containing material; or
  - b. Collection and analysis of bulk samples, as specified by 40 CFR 763.86, demonstrating that no asbestos is present in the material. Bulk samples collected for asbestos identification are analyzed by personnel with proficiency in asbestos identification, demonstrated by successful participation in a recognized proficiency program, such as the National Voluntary Laboratory Accreditation Program (NVLAP), NIST, AIHA, or equivalent.
3. If documentation can be produced that demonstrates the presumed asbestos-containing material does NOT contain asbestos, then hazard communication requirements do not apply. Supporting documentation shall be maintained with facility/project records.

### 3.3 Requirements for Facility Management/Building Owners

(5.1.3)

NOTE: Requirements for facility managers and building owners are specified in 29 CFR 1910.1001.

1. The presence, quantity, and location of asbestos-containing materials and/or presumed asbestos-containing materials in facilities and/or associated structures shall be determined. An assumption is made that thermal system insulation, surfacing material, and resilient flooring materials installed prior to 1980 contain asbestos, unless inspection and bulk sampling have been performed in accordance with Section 1.0.
2. Notification to affected employees, building occupants, personnel entering the facility, and subcontractors who will occupy or work in asbestos-containing areas about the presence, location, and quantity of asbestos-containing material and presumed asbestos-containing material shall be provided.
3. Employees who perform housekeeping activities in areas containing asbestos-containing material or presumed asbestos-containing material shall be informed of the presence and location of asbestos materials that they may come in contact with during the performance of work.

4. The facility assessment shall be updated when there are changes in building occupancy, accessibility to asbestos-containing material, or type and condition of asbestos-containing material/presumed asbestos-containing material which may affect employee exposure, or when construction-related asbestos projects provide documentation of quantities and location of remaining asbestos after project completion.
  - a. As appropriate, results of bulk sampling and testing of suspect materials conducted prior to performing asbestos related work shall be used to update the facility listing of asbestos-containing materials.
5. Documentation describing the presence, location, and condition of asbestos-containing material/presumed asbestos-containing material, and records supporting the rebuttal of presumed asbestos-containing material with the facility/building records shall be maintained. Records shall be maintained for the duration of facility operations and made available to subsequent managers of the facility.
6. Upon receipt of notification from managers of construction activities that asbestos related work will be performed, building occupants and/or other personnel in or adjacent to the work area shall be notified to accurately communicate potential hazards and prevent unintended disturbance of these materials.

NOTE: During the course of work, if asbestos-containing material or presumed asbestos-containing material is newly discovered, the appropriate facility manager or building manager shall be notified by the line manager within 24 hours.

- a. Required communications shall be performed verbally, by written notice, or by posting warning signs.
  - b. Results of any perimeter monitoring and/or clearance sampling conducted as part of planned abatement activities or to determine potential exposures from inadvertent disturbance of asbestos-containing material shall be communicated to building occupants or other affected employees.
  - c. If representative monitoring is conducted, affected employees shall be notified within fifteen days of receipt of results from Industrial Hygiene.
7. Warning signs or labels to identify the presence of asbestos-containing materials and presumed asbestos-containing materials shall be provided.
    - a. Labels shall be attached to products and containers of asbestos, including waste containers, and installed asbestos products, when feasible. Labels must contain the following information:

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG DISEASE HAZARD**

- b. Labels are not required when:
- Asbestos fibers have been modified by a bonding agent, coating, or other material, and the manufacturer can demonstrate that during reasonable use and handling, the airborne concentration of airborne fibers will not exceed the permissible exposure limit or excursion limit.
  - Asbestos is present in concentrations less than 1.0% by weight.
- c. Signs may be posted in lieu of the use of labels, if the appropriate hazard communication information is available to employees.
- d. The entrance to all mechanical rooms and spaces shall be posted with warning signs listing the presence and location of asbestos-containing material/presumed asbestos-containing material and the appropriate work practices to prevent disturbance of the material. To facilitate employee comprehension, graphics or languages other than English may be used to supplement the following required sign:
- DANGER  
ASBESTOS  
CANCER AND LUNG DISEASE HAZARD  
AUTHORIZED PERSONNEL ONLY**
- e. The use of asbestos-free products for new or replacement applications should be promoted. If new asbestos-containing products are installed, such as in some roofing materials, hazard communication information or material safety data sheets must be obtained from the manufacturer. Prior to purchase, approval from Industrial Hygiene is required. The facility listing of asbestos-containing material should be updated if items are purchased and installed.
- f. If asbestos-containing material is identified, the following steps must be implemented to minimize the potential for asbestos exposures:
- 1) Maintenance and removal options must be addressed, as necessary.
  - 2) Controls to minimize risk to building occupants must be implemented.
  - 3) Hazard communication must be provided to affected employees.
  - 4) Work practices must be in place to safely perform routine custodial tasks that may involve asbestos-containing material.
  - 5) Asbestos-containing materials and presumed asbestos-containing materials not scheduled for removal must be protected and maintained in good condition. Materials which are deteriorating or disturbed must be repaired, encapsulated, or enclosed to prevent fiber releases.

- 6) Periodic surveillance of material conditions must be performed to determine if the condition or status of asbestos-containing material has changed; appropriate documentation must be maintained.

### 3.4 Multi-Employer Work Sites/Subcontractor Interface

1. When activities impact asbestos-containing materials or presumed asbestos-containing materials at multi-employer work sites, all affected employers of work activities and planned measures to prevent asbestos exposure must be notified.
2. When activities require the establishment of a regulated area, written notification of planned activities must be provided to the facility manager (or designated building owner) and other work site employers, including information on the nature of the work with asbestos-containing materials or presumed asbestos-containing materials, the requirements related to the regulated area, and the preventive measures to prevent exposure to others on the work site.
3. If asbestos hazards are created, appropriate measures must be implemented to abate the hazard and the facility manager or designated building owner and managers of other employees working in the area affected by the hazard must be notified.
4. Protective measures must be implemented for their respective employees if they are exposed to asbestos hazards created by other work forces.

### 3.5 Hazard Identification

Information on location, quantity, and condition of asbestos-containing material and/or presumed asbestos-containing material in the work area shall be obtained. Asbestos operations for their potential to generate airborne fibers shall be assessed.

1. Determine if housekeeping or custodial activities will be performed in buildings where asbestos-containing material is in poor condition or could be disturbed.
2. Bulk samples shall be collected, as necessary, to positively demonstrate presumed asbestos-containing material does not contain asbestos.

### 3.6 Exposure Monitoring

1. Initial employee exposure monitoring shall be performed for each operation where employee exposure is, or can reasonably be expected to be, at or above the permissible exposure limit or excursion limit.

NOTE: Initial monitoring is not required when:

- Representative monitoring data collected for this operation since March 31, 1992 exists.
- Objective data demonstrates that the activity and the asbestos-containing material will not release airborne asbestos fibers at or above the permissible exposure

limit and/or excursion limit under similar work conditions having the greatest potential for fiber release.

2. Records of any objective data shall be maintained with the work control documentation and shall include the products involved, testing protocol, source of data, and a description of how this data supports exemption from initial monitoring.
3. Determine the appropriate level of monitoring with the help of an industrial hygienist. Exposure monitoring shall be conducted by qualified industrial hygienists or industrial hygiene technicians.
4. A representative number of employees performing each task comprising an operation or activity shall be monitored.
5. When required, exposure monitoring shall be performed by collecting personal breathing zone samples, representing 8-hour time weighted averages and 30-minute excursion limits. Exposure records must be collected, reported, and maintained as required by [TFC-ESHQ-IH-STD-03](#).
6. Periodic exposure monitoring shall be conducted at a frequency sufficient to represent with reasonable accuracy the level of exposure to the employees.
7. If exposure monitoring results indicate the permissible exposure limit or excursion limit has been exceeded, periodic monitoring must be performed at least every six months for employees reasonably expected to be exposed at or above the permissible exposure limit or excursion limit.
  - a. Planned corrective measures must be developed and documented to reduce the permissible exposure limit.
  - b. Written notification of employee exposure monitoring must be provided and corrective measures communicated to affected employees.
8. If representative exposure monitoring results statistically demonstrate exposures are at or below the permissible exposure limit or exposure limit, monitoring will be discontinued.
9. Exposure monitoring shall be reinstated whenever there are any changes in the process, personnel, control equipment, or work practices that may result in new or additional exposures above the permissible exposure limit and/or exposure limit.
10. Employees or their representative shall be provided the opportunity to observe exposure monitoring. Employees shall adhere to work practices and personal protective equipment prescribed for the activity under observation.
11. Written records of exposure monitoring shall be provided to the affected employees within fifteen days of receipt of results from Industrial Hygiene.
12. Written records of employee exposure monitoring shall be provided to the employee's designated representative upon request.

**3.7 Engineering Controls/Work Practices**

(5.1.3)

1. Engineering controls and work practices shall be instituted to reduce and maintain employee exposure to or below the permissible exposure limit and/or excursion limit, when feasible.
2. When feasible engineering and work practice controls do not reduce exposures to or below the permissible exposure limit or excursion limit, respiratory protection shall be supplemented in accordance with respiratory protection controls found in [TFC-ESHQ-S IH-C-05](#).
3. Local exhaust ventilation and dust collection systems shall be designed, constructed, installed, and maintained in accordance with ANSI Z9.2-1979. (5.1.1)
4. Local exhaust ventilation systems shall be provided during the use of all hand-operated and power-operated tools (such as, but not limited to, saws, scorers, abrasive wheels, drills) that would release asbestos fibers in excess of the permissible exposure limit.
5. As feasible, the use of wet methods shall be applied to minimize the release of asbestos fibers and exposures maintained below the permissible exposure limit and excursion limit.
6. Asbestos-containing cements, mortars, coatings, grout, plaster, or other similar materials shall be removed from shipping containers only after appropriate wet methods, enclosures or ventilation have been implemented.
7. Prohibited practices include:
  - Use of compressed air without a ventilation system to remove asbestos-containing materials
  - Sanding of asbestos-containing flooring material
  - Dry sweeping, shoveling or clean-up, unless HEPA vacuuming and/or wet methods are not feasible.
8. If employee exposures exceed the permissible exposure limit-time-weighted average or the excursion limit, the necessary controls, work practices, and respiratory protection shall be implemented and documented to reduce exposures to below the permissible exposure limit. The results of exposure monitoring and documentation of planned corrective measures shall be communicated.
9. Employee rotation is not permitted as a means to comply with the permissible exposure limits.

10. Engineering controls and work practices shall be implemented for brake and clutch repair and servicing in accordance with 29 CFR 1910.1001, mandatory Appendix F.
- As appropriate, preferred method A (negative pressure enclosure/HEPA vacuum system) or method B (low pressure/wet cleaning method), as specified in Appendix F (OSHA) shall be implemented.
  - If methods other than method A or method B are used, ensure alternate methods will reduce exposures equivalent to the preferred methods. Equivalent methods shall be established by providing:
    - Written procedure for the proposed method
    - Worker training in the use of the alternate method
    - Monitoring data collected under similar work and environmental conditions, or
    - Objective data documenting the proposed method will reduce exposures comparable to the preferred methods above.
- NOTE: Alternate method must meet equivalency criteria of 0.016 f/cc exposure level.
- When they are preferred, wet methods are used to control infrequent activities such as service or repair of five or fewer clutches, pairs of brakes, or combinations per week.
11. Ensure work practices for housekeeping activities performed on asbestos-containing flooring material.
- Sanding of asbestos-containing material or presumed asbestos-containing material is prohibited
  - Burnishing or dry buffing is permitted only on flooring with a layer to prevent direct contact of the pad with the asbestos-containing material
  - Strip finishing using wet methods and low abrasion pads at speeds lower than 300 rpm is required.
12. Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing shall be collected and disposed of in sealed, labeled, impermeable containers or bags.

### 3.8 Housekeeping Activities

1. Prior to initiating new work activities, the building owner shall be contacted to obtain information on the presence, location, and condition of asbestos-containing material or presumed asbestos-containing material within the building.

2. Procedures and work practices shall be in place to minimize the potential for contact or disturbance of asbestos-containing material or presumed asbestos-containing material.
3. Surfaces must be free of accumulation of waste containing asbestos dust or debris.
4. Asbestos awareness training must be provided for employees who perform housekeeping duties in areas that may bring them into contact with asbestos-containing material or presumed asbestos-containing material.

### 3.9 Hygiene Facilities and Practices for Employees

(5.1.2)

1. Install and require employee use of hygiene facilities for activities where employee exposures to airborne asbestos exceed the permissible exposure limit or excursion limit (resulting in the establishment of a regulated area).
2. Hygiene facilities for regulated areas shall include:
  - Two change rooms in accordance with 29 CFR 1910.141(e)
  - Shower facilities in accordance with 29 CFR 1910.141(d)(3).
3. For employees who work in areas where their exposure exceeds the permissible exposure limit:
  - a. Lunchroom facilities shall be provided with a positive pressure, filtered air supply.
  - b. Personal hygiene (hand/face washing) is required prior to ingestion of any food products or application of cosmetics.
  - c. Wearing of contaminated clothing into lunchroom facilities or away from designated work area is prohibited.
  - d. Showers are required at the end of each work shift.

### 3.10 Regulated Areas

1. Regulated areas shall be established whenever activities cause airborne concentrations of asbestos to exceed or there is a reasonable possibility they may exceed the permissible exposure limit or excursion limit.
2. Regulated areas shall be marked in a manner which minimizes the number of persons within the area and protects persons outside the barrier.

- Entrances to regulated areas shall be posted with asbestos warning signs that read:

**DANGER  
ASBESTOS  
CANCER AND LUNG DISEASE HAZARD  
AUTHORIZED PERSONNEL ONLY**

- The following shall be included when respirators or protective clothing are required:

**RESPIRATORS AND PROTECTIVE CLOTHING  
ARE REQUIRED IN THIS AREA**

- The facility manager or designated building owner shall be informed of planned activities within regulated area.
- Employees shall not eat, drink, smoke, chew tobacco or gum, or apply cosmetics within the regulated area.

### **3.11 Respiratory Protection**

(5.1.3)

- The selection, issuance, and control of the appropriate level of respiratory protection shall be provided in accordance with the site-wide respiratory protection program.
- Respiratory protection is required for asbestos related activities whenever the potential exposure associated with an activity cannot be reduced below the permissible exposure limit or excursion limit by the use of engineering controls or work practices.

NOTE: Respiratory protection is required for employees exposed to greater than permissible exposure limit/excursion limit during the interval controls are being installed or implemented.

- Industrial hygiene personnel shall select respiratory protection. If radiological hazards are involved, seek assistance from radiological control personnel.
- Respirator wearers shall receive a quantitative fit test for each style and type of respirator used as specified in [Table 1](#).
  - Asbestos workers are fit tested every six months as required by 29 CFR 1910.1001.
  - Daily use of respirators includes a positive and negative fit check each time an air purifying respirator (APR) is donned or adjusted.

NOTE: Qualitative fit testing is permitted only for testing of half-mask APR and requires prior approval from the respiratory protection program coordinator and an approved qualitative fit testing program in place.

- The appropriate levels of respiratory protection for emergency response/cleanup shall be provided based upon the exposure potential.

6. When respiratory protection is required:
- Employees who are issued respiratory protection shall be medically qualified, fit tested, and properly trained in respirator use and maintenance.
  - Appropriate doffing and field decontamination procedures during respirator removal shall be maintained.
  - Asbestos contaminated respirators shall be placed into sealed bags and labeled with asbestos hazard warning labels before turning them into the respirator maintenance facility for decontamination and cleaning.

**Table 1. Respiratory Protection – General Industry.**

Airborne Asbestos/Conditions of Use	Required Respirator
• Not over 1 f/cc (10 X PEL)	Half-mask APR, equipped with HEPA filter
• Not over 5 f/cc (50 X PEL)	Full-face APR, equipped with HEPA filter
• Not over 10 f/cc (100 X PEL)	<ul style="list-style-type: none"> <li>• PAPR, equipped with HEPA filter, or</li> <li>• Supplied air respirator, operated in continuous flow mode</li> </ul>
• Not over 100 f/cc (1000 X PEL)	Full-face supplied air respirator, operated in pressure demand mode
• Greater than 100 f/cc (> than 1000 X PEL or unknown concentration)	Full-face supplied air respirator, operated in pressure demand mode, equipped with auxiliary positive pressure SCBA
NOTE: A tight-fitting PAPR may be used in lieu of any APR whenever:	
1. The employee chooses.	
2. The respirator provides adequate protection.	

### 3.12 Protective Clothing

1. The use of protective clothing (such as coveralls, gloves, head or foot coverings, face shields, etc.) is required for employees exposed to asbestos above the permissible exposure limit or excursion limit or if there is a potential for eye irritation.
2. Industrial Hygiene/Industrial Safety shall be consulted for selection of appropriate personal protective equipment.
3. Wearing of contaminated protective clothing to work area and designated change areas shall be restricted.

- Contaminated work clothing shall be stored in closed containers and labeled as specified in Section 3.3.
  - Shaking or removal as a means to remove asbestos fibers from work clothing and other surfaces is prohibited.
4. Contaminated clothing or protective equipment shall be sealed and transported to prevent airborne release of asbestos fibers. The hazards associated with the contents to anyone who handles or may come in contact with the clothing shall be labeled or otherwise effectively communicated.
  5. If work clothing or reusable (non-disposable) protective clothing becomes contaminated with asbestos, prior arrangements need to be made with a vendor providing this type of laundry service.

### 3.13 Medical Surveillance

1. An Employee Job Task Analysis shall be completed for employees exposed to asbestos at or above the permissible exposure limit (time-weighted average or excursion level) to enroll employees in the asbestos medical surveillance program. For those employees, the medical examinations shall be provided prior to work as a pre-placement exam, and annually thereafter.
  - If the employee was examined within the last twelve months, and the exam meets the criteria of this standard, another medical exam is not required.
  - The medical provider shall be provided with a record of the employee's duties, anticipated exposure level, personal protective equipment, and respiratory protection in use, as requested.
  - Requirements for medical qualification of respirators users are defined in the Fluor Hanford Respiratory Protection Program.
2. A copy of the physician's written opinion shall be provided to the employee within 30 days of receipt from the medical provider.
  - The Employee Job Task Analysis shall be revised when an employee is no longer performing asbestos-related work or will be terminating employment so that the appropriate follow-up and/or medical exam can be scheduled.

### 3.14 Hazard Communication

1. The facility manager or designated building owner shall be notified of activities that may disturb or potentially disturb asbestos-containing materials or presumed asbestos-containing materials, and the planned steps taken to prevent asbestos exposure.
2. Documentation that describes the presence, location, and condition of the asbestos-containing material or presumed asbestos-containing material for the work site shall be requested from the facility manager.

3. Employees who perform housekeeping duties shall be informed of the presence and location of asbestos-containing material or presumed asbestos-containing material.
4. If any new asbestos-containing products are installed (i.e., certain liquid roofing mastics and cements), information on the location, quantity, and product specifications shall be provided to the facility manager/building owner to ensure the asbestos inventory is updated. Employees shall be provided with the appropriate hazard communication.
5. During the course of work, if asbestos-containing material or presumed asbestos-containing material is newly discovered, the quantity and material type shall be identified. Affected employees and building occupants shall have been provided appropriate protective measures. The facility manager or designated building owner shall be contained within 24 hours.
6. Products and containers of asbestos, including waste containers and installed asbestos products, shall have labels affixed, when feasible, containing the following information.

**DANGER  
CONTAINS ASBESTOS FIBERS  
AVOID CREATING DUST  
CANCER AND LUNG DISEASE HAZARD**

NOTE: Labeling and material safety data sheets are not required if asbestos fibers have been modified by bonding agents and the manufacturer can demonstrate that during reasonable use and handling, the airborne concentration of airborne fibers will not result in exposures above the permissible exposure limit or excursion limit, or asbestos is present in the product in concentrations less than 1.0% by weight.

7. If the appropriate hazard communication information is available to employees, signs shall be posted in lieu of labels.

### **3.15 Employee Information and Training**

(5.1.3)

1. Training shall be provided for employees exposed to airborne asbestos at or above the permissible exposure limit or excursion limit. Initial training shall be provided prior to job assignment and annually thereafter. Training elements shall consist of asbestos awareness and include the following OSHA-specific elements: health effects of asbestos exposure; identification and evaluation of asbestos hazards; controls, work practices, personal protective equipment, and procedures to reduce exposure; contents of required signs/labels; and elements of the medical surveillance program.
2. Initial and annual refresher asbestos awareness training shall be provided for all employees performing housekeeping activities in areas containing asbestos-containing material or presumed asbestos-containing material.
3. Access to 29 CFR 1910.1001 shall be provided, as requested.

4. The training provider must ensure:
  - Training courses are in compliance with 29 CFR 1910.1001
  - Provide proof of an employee’s successful completion of training to the employee and the employee’s manager, as requested
  - That all employee records of training required by this program are maintained for at least one year beyond the length of employment.
5. Industrial Hygiene must:
  - Determine the applicability of either the Construction or General Industry Standard to a given activity
  - As part of the work planning process, review Job Hazard Analysis and work packages
  - Assist with exposure assessment; select exposure monitoring strategies, and perform personal and area exposure monitoring in accordance with company approved procedures
  - Support the review of employee exposure monitoring data and notification
  - As requested, communicate the risks associated with asbestos exposure to managers, workers, and building occupants
  - Select appropriate respiratory protection, based on results of the exposure assessment, available exposure monitoring data.

#### 4.0 DEFINITIONS

(5.1.3)

Asbestos-containing material. Any material containing more than one percent asbestos.

Asbestos. Includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, actinolite, and any of these minerals that have been chemically treated and/or altered. For purposes of this standard, “asbestos” includes presumed asbestos-containing material.

Employee exposure. Exposure to airborne asbestos that would occur if the employee was not using respiratory protective equipment.

Excursion limit. The maximum level of airborne asbestos fibers an employee may be exposed to when measured as a 30-minute peak exposure. The excursion limit is 1.0 f/cc of air, averaged over a sampling period of 30 minutes as determined by the method in Appendix A of 29 CFR 1910.1001, or an approved equivalent method.

Facility. Any building, structure, or area where activities and/or materials governed by this program are found.

Facility manager. The building or facility owner who exercises control over management and recordkeeping functions relating to a building and/or facility in which activities impacted by this standard take place.

Fiber. A particulate form of asbestos, five micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

High-efficiency particulate air filter. A filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of at least 0.3 micrometers in diameter.

Homogeneous area. An area of surfacing material or thermal system insulation that is uniform in color and texture.

Intact. An asbestos-containing material that has not been crumbled, pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

Permissible exposure limit. The maximum level of airborne asbestos fibers an employee may be exposed to when measured as an eight-hour time weighted average. The permissible exposure limit is 0.1 f/cc.

Presumed asbestos-containing material. Thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of a material as “presumed asbestos-containing material” may be rebutted pursuant to Section 1.0 of this standard.

Regulated area. An area established to mark areas where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

Surfacing material. Material that is sprayed-on, troweled-on, or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

Surfacing asbestos-containing material. Surfacing material that contains more than one percent asbestos.

Thermal system insulation. Asbestos-containing material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.

Thermal system insulation asbestos-containing material. Thermal system insulation that contains more than one percent asbestos.

## 5.0 SOURCES

### 5.1 Requirements

1. ANSI 9.2-1979, “Fundamentals Governing the Design and Operation of Local Exhaust Systems.”
2. 29 CFR 1910, Subpart J, “General Environmental Controls,” Section 141 (d)(3) and (e), “Sanitation.” (S/RID)

3. 29 CFR 1910, Subpart Z, “Toxic and Hazardous Substances,” Section 1001 and Appendix F.
4. 40 CFR 763, Subpart E, “Asbestos-Containing Materials in Schools,” Section 86, “Sampling.”

## **5.2 References**

1. [TFC-ESHQ-IH-STD-03](#), “Exposure Monitoring, Reporting, and Records Management.”
2. [TFC-ESHQ-IH-STD-05](#), “Asbestos Control - Construction Industry.”
3. [TFC-ESHQ-S\\_IH-C-05](#), “Respiratory Protection.”