

Requirements Documents

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Asbestos Control - General Industry

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1.0 PURPOSE AND SCOPE

This Level 1 Requirements Document (RD) establishes the requirements for the identification and control of asbestos hazards for work activities regulated under the Occupational Safety and Health Act (OSHA) 29 CFR 1910.1001, *Asbestos (General Industry)*, and also defines requirements for facility managers or landlords of buildings containing asbestos. It is intended to assist Hanford Mission Intergration Solutions (HMIS) Team employees performing HMIS scope of work in achieving full compliance with the OSHA general industry asbestos standard. Asbestos hazards created by work activities defined as construction activities under 29 CFR are governed by 29 CFR 1926.1101, *Asbestos (Construction)*, and by [HMIS-RD-SP-15097](#), *Asbestos Control - Construction Industry*.

This RD applies to occupational exposures to Asbestos Containing Material (ACM) or Presumed Asbestos Containing Material (PACM) in all industries covered by OSHA except:

- This RD does not apply to construction work as defined in 29 CFR 1910.12(b) – See 29 CFR 1926.1101 and HMIS–RD-SP-15097;
- This RD does not apply to ship repairing, shipbuilding and ship breaking activities as defined in 29 CFR 1915.1001

Typical examples of materials and activities covered by the RD include automotive brake and clutch repair and housekeeping activities not associated with construction.

Section 2.1 directs facility managers or their designated building owners to assess the condition and location of asbestos within the facility, to effectively manage asbestos hazards and to implement hazard communication measures. Requirements for the planning and performance of (non-construction) work activities where there is potential for employee exposure to asbestos are included in sections 2.2 through 2.12.

NOTE: *Terms specific to this RD are defined in [Appendix A](#).*

2.0 REQUIREMENTS

NOTE 1: *For the tables in this section under the requirement "type" column, "V" means verbatim and "I" means interpreted.*

NOTE 2: *This section addresses the following requirements (navigation links are provided):*

- Section 2.1 Facility Manager/Building Owner Responsibilities
- Section 2.2 Hazard Identification and Exposure Assessment for Asbestos Work Activities
- Section 2.3 Employee Exposure Monitoring During Asbestos Work Activities
- Section 2.4 Engineering Controls/Work Practices for Asbestos Work Activities
- Section 2.5 Regulated Areas for Asbestos Work Activities
- Section 2.6 Hygiene Facilities and Practices for Asbestos Work Activities

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- Section 2.7 Respiratory Protection for Asbestos Work Activities
- Section 2.8 Protective Clothing for Asbestos Work Activities
- Section 2.9 Medical Surveillance for Asbestos Workers
- Section 2.10 Hazard Communication for Asbestos Work Activities
- Section 2.11 Employee Information and Training for Asbestos Workers
- Section 2.12 Multi-employer Workplace Requirements for Asbestos Work Activities

2.1 Facility Manager/Building Owner Responsibilities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	<p>In conjunction with AHERA certified inspector, determine and document the presence, quantity, and location of ACMs and/or PACMs in facilities and/or associated structures. Document assessment on site form <i>Facility Asbestos Assessment</i> (A-6007-928), and retain completed assessment in the Safety & Health Reference Information (SHRI) database.</p> <p>NOTE 1: <i>Facility assessment shall document all known ACM that has been identified during inspections or sampling events regardless of facility age.</i></p> <p>NOTE 2: <i>Facility assessment shall identify as PACM all thermal system insulation (TSI), sprayed on and troweled on surfacing materials (SM), and asphalt or vinyl flooring materials found in buildings constructed no later than 1985. Designation of installed materials as PACM can only be rebutted by:</i></p> <ul style="list-style-type: none"> • <i>Conducting an inspection pursuant to the requirements of Environmental Protection Agency's (EPA) Asbestos Hazard Emergency Response Act (AHERA) (40 CFR Part 763, Subpart E) which demonstrates the material is not ACM; or</i> • <i>Performing tests of the PACM to demonstrate that no asbestos is present in the material. Such tests shall include Polarized Light Microscopy (PLM) analysis of bulk samples collected by an accredited</i> 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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	<i>inspector in the manner described in 40 CFR 763.86.</i>		
2.	If ACM/PACM is identified, implement the following steps in order to minimize the potential for asbestos exposures: <ol style="list-style-type: none"> Address maintenance and removal options as necessary. Protect and maintain ACMs and PACMs not scheduled for removal in good condition. Ensure deteriorating or disturbed materials are repaired, encapsulated, or enclosed in order to prevent fiber releases in accordance with HMIS-RD-SP-15097. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Provide notification to <u>affected</u> employees, building occupants, personnel entering the facility and subcontractors who will occupy or work in asbestos containing areas of the presence, location and quantity of ACM and PACM.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	Ensure employees who perform non-construction housekeeping/custodial activities in areas containing ACM or PACM are informed of the presence and location of asbestos materials that may be contacted during performance of the work and that work practices are in place to ensure such tasks are done in manners that prevent the generation of airborne asbestos fibers.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	Perform and document periodic surveillance, as necessary, of material conditions to determine if condition or status of ACM/PACM has changed and document changes noted.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
6.	Update the documented facility assessment required by requirement 2.1.1, above, when there are changes in building occupancy, accessibility to ACM, type and condition of ACM/PACM which may affect employee exposure, additional bulk sampling results confirm or rebut the presence of ACM/PACM and/or when construction related asbestos projects provide documentation of quantities and location of remaining asbestos after project completion.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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	<p>products, when feasible. Ensure labels contain the following information, in accordance with 29 CFR 1910.1001:</p> <p style="text-align: center;">DANGER</p> <p style="text-align: center;">CONTAINS ASBESTOS FIBERS</p> <p style="text-align: center;">MAY CAUSE CANCER</p> <p style="text-align: center;">CAUSES DAMAGE TO LUNGS</p> <p style="text-align: center;">DO NOT BREATH DUST</p> <p style="text-align: center;">AVOID CREATING DUST</p> <ul style="list-style-type: none"> • Post the entrance to all mechanical rooms and spaces with warning signs listing the presence and location of ACM/PACM, and the appropriate work practices to prevent disturbance of the material. <p style="text-align: center;">DANGER</p> <p style="text-align: center;">ASBESTOS</p> <p style="text-align: center;">MAY CAUSE CANCER</p> <p style="text-align: center;">CAUSES DAMAGE TO LUNGS</p> <p style="text-align: center;">AUTHORIZED PERSONNEL ONLY</p> <p>NOTE 1: <i>Labels are not required when:</i></p> <ul style="list-style-type: none"> • <i>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 PEL or EL.</i> • <i>Asbestos is present in concentrations less than 1.0%.</i> <p>NOTE 2: <i>Signs may be posted in lieu of the use of labels, if the appropriate hazard communication information is available to employees</i></p>	<p>V</p>	
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	NOTE 3: <i>To facilitate employee comprehension, graphics or languages other than English may be used to supplement the following required signage.</i>		
10.	Promote the use of asbestos-free products for new or replacement applications. If new asbestos containing products are installed, such as in some roofing materials, obtain hazard communication information or Safety Data Sheets from the manufacturer. Prior to purchase, obtain approval from industrial hygiene. Update the facility listing of ACM, if items are purchased and installed.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.2 Hazard Identification and Exposure Assessment for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Prior to the commencement of covered asbestos work, line management shall obtain information on location, quantity and condition of ACM and/or PACM in the work area from the facility manager/building owner. As necessary, collect bulk samples (in accordance with 40 CFR 763.86) to positively demonstrate that PACM does not contain asbestos.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall consult with the project/facility Safety and Health (S&H) professional, or asbestos competent person, as applicable, to assess asbestos operations for their potential to result in employee exposures and to generate airborne fibers.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Custodial services line management shall determine if non-construction housekeeping or custodial activities will be performed in buildings where ACM is in poor condition, could be disturbed or where the activities could result in employee exposure to airborne asbestos.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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2.3 Employee Exposure Monitoring During Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall consult with the facility S&H professional or asbestos competent person, as applicable, to determine the appropriate employee exposure monitoring.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that initial employee exposure monitoring is performed for each operation where employee exposure is, or can reasonably be expected to be, at or above the PEL or EL. <i>NOTE: Initial monitoring is not required when:</i> <ul style="list-style-type: none"> • <i>Representative monitoring data collected for this operation since March 31, 1992 exists.</i> • <i>Objective data demonstrates that the activity and the asbestos-containing material will not release airborne asbestos fibers at or above the PEL and/or EL under similar work conditions having the greatest potential for fiber release.</i> 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Line management shall ensure that records of any objective data, with names or other personal identifiers "blacked out" or otherwise deleted, are maintained with the work control documentation. Such records shall include, as appropriate, products involved, testing protocol, source of data and a description of how this data supports exemption from initial monitoring.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	Line management shall ensure that qualified S&H professionals conduct employee asbestos exposure monitoring.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	Line management shall ensure that a representative number of employees performing each task comprising an operation or activity are monitored.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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6.	When required, line management shall ensure that exposure monitoring is performed by collecting personal breathing zone samples, representing 8-hour TWAs and 30-minute ELs, in accordance with the OSHA Reference Method in Appendix A of 29 CFR 1910.1001.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
7.	Line management shall ensure that periodic exposure monitoring is conducted at a frequency sufficient to represent, with reasonable accuracy, the level of exposure to the employees.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
8.	If exposure monitoring results indicate the PEL or EL has been exceeded, line management shall ensure that periodic monitoring is performed at least every six months for employees reasonably expected to be exposed at or above the PEL or EL. <i>NOTE: If monitoring results indicate employee exposures are below the EL and PEL, periodic monitoring may be discontinued for employees whose exposures are represented by the monitoring.</i>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
9.	Line management shall ensure that exposure monitoring is re-instated whenever there is a change in process, control equipment, personnel or work practices that may result in new or additional exposures above the PEL/EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
10.	The facility/project Industrial Hygienist shall ensure that notification(s) of exposure monitoring results are provided to affected employees within 15 working days of receipt of laboratory results and according to requirements in HMIS-PRO-SP-409 , <i>Industrial Hygiene Monitoring, Reporting and, Records Management</i> . <i>NOTE 1: Preliminary information may be used for this purpose, when followed by a final report.</i>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
11.	Line management shall ensure that employees or their representative(s) are provided the opportunity to observe exposure monitoring.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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12.	Line management shall ensure that each affected employee's Employee Job Task Analysis (EJTA) is modified, as necessary, to reflect the results of the exposure assessment.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
13.	Line management shall ensure that written records of employee exposure monitoring are provided to the employee's designated representative upon request.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
14.	Line management shall ensure that employee exposure monitoring records are collected, reported and maintained as required by HMIS-PRO-SP-409 , <i>Industrial Hygiene Monitoring, Reporting and Records Management</i>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.4 Engineering Controls/Work Practices for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall ensure that employees adhere to and observe work practices/controls and personal protective equipment prescribed for the activity under observation.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	As part of work planning, line management shall ensure that engineering controls and work practices are chosen, documented, implemented and observed to reduce and maintain, whenever feasible, employee exposures to or below the PEL/EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Line management shall enlist the aid of an asbestos competent person and, as appropriate, facility S&H professional when selecting engineering control strategies and equipment.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	When feasible engineering and work practice controls do not reduce exposures to or below the PEL or EL, line management shall ensure that they are supplemented with respiratory protection in accordance with this section and DOE-0352 , <i>Hanford Site Respiratory Protection Program</i> .	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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5.	Line management shall ensure that wet methods are used, when feasible, to minimize the release of asbestos fibers and maintain exposures below the PEL and EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
6	Line management shall ensure that local exhaust ventilation systems are provided during the use of all hand-operated and power-operated tools, (such as but not limited to saws, scorers, abrasive wheels, drills) which would release asbestos fibers in excess of the PEL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
7.	Line management shall ensure that asbestos-containing cements, mortars, coatings, grout, plaster or other similar materials are removed from shipping containers only after appropriate wet methods, enclosures or ventilation have been implemented.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
8.	<p>Line management shall ensure implementation of engineering controls and work practices for brake and clutch repair and servicing, in accordance with OSHA 29 CFR 1910.1001, mandatory Appendix F.</p> <p>a. As appropriate, implement either preferred method A (negative pressure enclosure/HEPA vacuum system) or method B (low pressure/wet cleaning method), as specified in Appendix F (OSHA).</p> <p>b. If methods other than Item 2.4.8.a are used, ensure alternate methodology will reduce exposures equivalent to the preferred methods. Establish equivalent methods by providing:</p> <ul style="list-style-type: none"> • Written procedure for the proposed method; and • Worker training in the use of the alternate method; and • 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 (a). <p>NOTE 1: <i>Alternate method must meet equivalency criteria of 0.016 f/cc exposure level averaged over at least 18 personal air samples.</i></p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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	NOTE 2: <i>Wet methods may be used as preferred method of control for infrequent activities consisting of service or repair of 5 or fewer clutches, pairs of brakes or combinations per week.</i>		
9.	<p>Line managers for employees performing non-construction housekeeping/custodial activities shall ensure that procedures and practices are in place to minimize the employees' potential for contact or disturbance of ACM and/or PACM and surfaces are free of accumulation of waste containing asbestos dust or debris.</p> <p>Line management shall ensure that manufacturer's certification is procured and maintained to demonstrate HEPA vacuums are DOP tested in accordance with MIL-STD 282, <i>Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance Test or other applicable standards.</i></p> <p>NOTE 1: <i>Other applicable standards pertaining to HEPA filter testing and certifications:</i></p> <ul style="list-style-type: none"> • <i>ISO 29463: High-efficiency filters and filter media for removing particles in air.</i> • <i>HMIS-PRO-ENG-8323: Management of HEPA Filter systems. (NOTE: this procedure excludes DOP testing procedures for HEPA filtered vacuum cleaners not used in radiological environments)</i> <p>NOTE 2: <i>HEPA filtered vacuuming equipment shall be used for vacuuming asbestos containing waste, dust and debris.</i></p> <p>NOTE 3: <i>Surfaces contaminated with asbestos may not be cleaned by the use of compressed air.</i></p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
10.	<p>Line managers for employees performing non-construction housekeeping/custodial activities shall ensure that the following work practices are observed for work on asbestos-containing flooring material:</p> <ul style="list-style-type: none"> • Sanding of ACM or PACM is prohibited. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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	<ul style="list-style-type: none"> Burnishing or dry buffing is permitted only on flooring with a layer to prevent direct contact of the pad with the ACM. Strip finishing using wet methods and low abrasion pads at speeds lower than 300 rpm is required. 		
11.	Line management shall ensure that asbestos waste, scrap, debris, bags, containers, equipment and contaminated clothing are collected and disposed of in sealed, labeled, impermeable containers or 2 – 6 mil asbestos waste bags, per the requirements in 29 CFR 1910.1001(j)(5)(i)(ii) and (k)(6).	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
12.	Line management shall ensure that job-specific controls and work practices are documented and maintained as part of the work package documentation.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.5 Regulated Areas for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall determine the need for a regulated area with the support of the project/facility S&H professional or asbestos competent person, as applicable.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that regulated areas are established whenever covered asbestos work activities cause airborne concentrations of asbestos to exceed, or there is a reasonable possibility they may exceed, the PEL or EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Line management shall inform the facility manager/building owner of the existence of the regulated area and the planned activities that are to take place within it.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	Line management shall ensure that regulated areas are demarcated to minimize the number of persons within the area, restrict access to authorized workers, and protect	I	10 CFR 851.23 and 10 CFR 851, App A, item 6;

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	persons outside the area from exposure to airborne asbestos.		29 CFR 1910.1001
5.	Line management shall ensure that warning signs that demarcate the regulated area are provided and displayed at each location where a regulated area is required and the signs shall be placed at such a distance from the regulated area so that an employee may read the signs and take necessary protective steps before entering the regulated area.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
6.	Warning signs shall be printed in large bold letters against a contrasting background and shall contain the following information: DANGER ASBESTOS MAY CAUSE CANCER CAUSES DAMAGE TO LUNGS AUTHORIZED PERSONNEL ONLY And, when the use of respirators and protective clothing is required in the regulated area, the sign shall also say: WEAR RESPIRATORY PROTECTION AND PROTECTIVE CLOTHING IN THIS AREA	I V	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
7.	Line management shall ensure that employees do not eat, drink, smoke, chew tobacco or gum, or apply cosmetics within the regulated area.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.6 Hygiene Facilities and Practices for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall ensure that hygiene facilities are installed and used for activities where employee exposures	I	10 CFR 851.23 and 10 CFR 851,

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	to airborne asbestos exceed the PEL or EL (resulting in the establishment of a regulated area).		App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that the following hygiene facilities are available for all regulated areas: <ul style="list-style-type: none"> Two change rooms, in accordance with 29 CFR 1910.141(e); and Shower facilities, in accordance with 29 CFR 1910.141(d)(3). 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	For employees who work in areas where their exposure exceeds the PEL, line management shall: <ul style="list-style-type: none"> Provide lunchroom facilities for employees with a positive-pressure, filtered air supply. Require personal hygiene (hand/face washing) prior to ingestion of any food products or application of cosmetics. Prohibit wearing of contaminated clothing into lunchroom facilities or away from designated work area. Require showers at the end of each work shift. Prohibit smoking in work areas where employees are occupationally exposed to asbestos. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.7 Respiratory Protection for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall ensure the selection, issuance, and control of the appropriate level of respiratory protection in accordance with DOE-0352 and 29 CFR 1910.134, <i>Respiratory Protection</i> .	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that respiratory protection is chosen and used for covered asbestos work whenever the potential exposure associated with an activity cannot be reduced below the PEL or EL by the use of engineering controls or work practices.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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3.	Line management shall ensure that, during the interval that engineering controls and/or work practices controls are being implemented/installed, respiratory protection is required for employees exposed above the PEL/EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	Line management shall ensure that the project/facility S&H professional selects respiratory protection. If radiological hazards are involved, the S&H professional shall seek assistance from radiological control personnel.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	<p>Line management shall ensure that respirator wearers receive a quantitative fit test for each style and type of respirator used, as specified in Table 1, and in accordance with DOE-0352.</p> <p>a. Asbestos workers who wear respirators with tight-fitting facepieces are fit tested annually, as required by 29 CFR 1910.134, and DOE-0352.</p> <p>b. Daily use of respirators includes a positive and negative fit check each time a negative pressure air-purifying respirator (APR) is donned or adjusted.</p> <p><i>NOTE: Qualitative fit testing is permitted only for testing of half-mask APR and requires prior approval from the Respiratory Protection Program Administrator and an approved qualitative fit testing program.</i></p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
6.	Line management shall ensure the appropriate levels of respiratory protection for emergency response/cleanup are provided, based upon the exposure potential.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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7.	<p>When respiratory protection is required, line management shall:</p> <ul style="list-style-type: none"> a. Verify employees who are issued respiratory protection are medically qualified, fit tested and properly trained in respirator use and maintenance as required by DOE-0352. b. Maintain appropriate doffing and field decontamination practices during respirator removal. c. Ensure asbestos contaminated respirators are placed into sealed bags and labeled with asbestos hazard warning labels before turning into the Respirator Maintenance Facility for decontamination and cleaning. <p><i>NOTE: Half-mask APR's and PAPR Hoods and filters used for asbestos work shall be disposed of as asbestos waste debris at end of shift.</i></p>	I	<p>10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001</p>
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Table 1. Respiratory Protection - Asbestos General Industry

Airborne Asbestos/ Conditions of Use	Required Respirator
Not in excess of 1 f/cc (10 X PEL).	Half-mask APR, equipped with HEPA filter (other than filtering facepiece respirators)
Not in excess of 5 f/cc (50 X PEL).	<ul style="list-style-type: none"> a. Full-face APR, equipped with High-efficiency particulate air (HEPA) filter; or b. half-mask powered air-purifying respirator (PAPR)
Not in excess of 10 f/cc (100 X PEL).	<ul style="list-style-type: none"> a. Full-facepiece (PAPR), equipped with HEPA filter, or b. Supplied air respirator (SAR) or airline respirator operated in continuous flow mode

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<p>Not in excess of 100 f/cc (1000X PEL)</p>	<ul style="list-style-type: none"> c. SAR or airline respirator operated in pressure demand or other positive pressure mode a. Full-face PAPR with HEPA filters, or b. Full-face SAR or airline respirator, operated in continuous flow, pressure demand mode or other positive pressure mode
<p>Greater than 100 f/cc (> than 1000 X PEL or unknown concentration).</p>	<p>SCBA, operated in pressure demand mode or other positive pressure mode.</p>

NOTE ON USE OF PAPRs, SARs, AIRLINE RESPIRATORS OR SCBA WITH HELMETS/HOODS: 29CFR 1910.134 specifies that PAPRs, SARs, airline respirators or SCBA with helmets/hoods have an assigned protection factor (APF) of 25 unless the employer, Hanford Mission Integration Solutions (HMIS) in this case, possesses evidence, provided by the respirator manufacturer, that testing of such equipment demonstrates performance at a level of protection equal to or greater than 1000 to merit an APF of 1000. Absent such testing, PAPRs, SARs, airline respirators and/or SCBA with helmets/hoods are to be treated as loose-fitting facepiece respirators and receive an APF of 25. Contact the HMIS Respiratory Protection Program Administrator to ensure that HMIS is in possession of necessary testing data before using PAPRs, SARs, airline respirators and/or SCBA with helmets/hoods in exposure situations where exposures could exceed 25 times the PEL.

NOTE: A tight-fitting PAPR must be provided in lieu of any APR whenever: (1) the employee chooses and (2) the respirator provides adequate protection.

1. This table is provided as a summary of the types of respirators acceptable for various types of asbestos general industry work and for various employee exposure scenarios. Respirators with higher protection factors can be used during any of the specified work situations or employee exposure scenarios. Consult Table 1 in 29CFR 1910.134 for additional information regarding respirator assigned protection factors.

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2.8 Protective Clothing for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall require the use of protective clothing (such as coveralls, gloves, head and/or foot coverings, face shield, etc.) by employees exposed to asbestos levels above the PEL/EL or when there is a potential for eye irritation.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that activity characteristics, available exposure data, additional hazards that the control itself may introduce (such as heat stress hazards) and other relevant data are considered when prescribing protective clothing.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Line management shall involve the facility S&H professional in the selection of protective clothing.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	Line management shall ensure that the protective clothing requirements are specified on appropriate work planning documentation.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	Line management shall ensure that wearing of contaminated protective clothing is restricted to work areas and designated change areas and shall ensure that employees: <ol style="list-style-type: none"> a. Store contaminated work clothing in closed containers and label the containers as specified in requirement 2.10.5. b. Prohibit shaking or use of compressed air as a means to remove asbestos fibers from work clothing and other surfaces. c. Contaminated clothing and work surfaces shall be cleaned with HEPA filtered vacuums. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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6.	Line management shall ensure that contaminated clothing or protective equipment is sealed and transported to prevent airborne release of asbestos fibers. Label or otherwise effectively communicate the hazards associated with the contents to anyone who handles or may come in contact with the clothing.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
7.	Line management shall ensure that, if work clothing or reusable (non-disposable) protective clothing becomes contaminated with asbestos, the clothing is either disposed of as asbestos waste or prior arrangements with a vendor providing this type of laundry service have been made.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

2.9 Medical Surveillance for Asbestos Workers

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall ensure that employees who perform covered asbestos work that results in asbestos exposures above the PEL and/or EL are scheduled for medical surveillance.	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001
2.	<p>Prior to the commencement of a work activity that will or is reasonably expected to expose employees to asbestos levels at or above the PEL and/or EL on any day, line management shall submit an initial or revised EJTA for medical program enrollment for each affected employee in accordance with HMIS-PRO-SP-11058, <i>Occupational Medical Qualification and Monitoring using EJTA</i>.</p> <p>NOTE 1: <i>For an employee not already enrolled in the Current Asbestos Workers Medical Program, revising their EJTA in a manner that indicates the need for enrollment in the program will trigger the scheduling of an initial asbestos medical exam for the employee. Annual asbestos exams are automatically scheduled for employees enrolled in the Current Asbestos Workers Medical Program.</i></p> <p>NOTE 2: <i>If HMIS subcontractor employees have potential for asbestos exposures, consult HMIS-PRO-SP-11058.</i></p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001

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3.	<p>Line management shall revise an employee's EJTA, document the reason for the revision and re-submit the EJTA whenever:</p> <ul style="list-style-type: none"> • The number of days on which the employee is occupationally exposed to asbestos at or above the PEL and/or EL changes from less than 30 days per year to equal to or more than 30 days per year; or • An employee in the asbestos medical surveillance program will no longer be exposed to asbestos at or above the PEL and/or EL, or an employee in the asbestos medical surveillance program leaves HMIS or HMIS subcontractor employment. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001
4.	<p>Prior to or upon completion of an employee EJTA revision indicating asbestos exposure at or above the PEL and/or EL, line management shall ensure that the employee is enrolled in the appropriate type of asbestos training, as detailed in section 2.11.</p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001
5.	<p>Project/facility S&H professionals shall notify line management of employees who need to be enrolled in the <i>Current Asbestos Workers Medical Program</i> as well as those who no longer meet the exposure criteria for continued enrollment. Such notifications shall be based on exposure monitoring data, hazard assessment results, or other definitive means as identified in SP-PRO-SP-17916, <i>Industrial Hygiene Baseline Hazard Assessments</i>.</p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001
6.	<p>Line management shall ensure that any provisions of the Occupational Medical Service Provider's (OMSP) (or other employee-designated physician) medical opinion are strictly adhered to (subject to applicable terms of an in-effect collective bargaining agreement), including, but not limited to, the following:</p> <ul style="list-style-type: none"> • Protective measures; • Work limitations; • Respirator use restrictions. <p>NOTE: 10 CFR 851, Appendix A, Item 8, as implemented by DOE-RL for Hanford Site contractors, gives the Hanford OMSP the responsibility to conduct a medical surveillance program for HMIS employees occupationally exposed to asbestos, according to the requirements in 29 CFR</p>	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001

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	<p><i>1910.1001 and 29 CFR 1910.1020. That medical surveillance program is assumed to include the following activities:</i></p> <ul style="list-style-type: none"> • <i>Through the medical scheduling system, assisting line management in scheduling employees for baseline, periodic, and closeout asbestos medical surveillance exams, as per the contents of submitted employee EJTs;</i> • <i>Medical surveillance and monitoring per the provisions of 29 CFR 1910.1001(l).</i> • <i>Informing both the employee and the employee's line management, of contents of the written medical opinion necessary to initiate compliance with protective measures, work limitations, and/or respirator use restrictions.</i> • <i>The maintenance and retention of employee medical records.</i> 		
7.	Project/facility S&H professionals shall assist line management in interpreting the Industrial Hygiene aspects of medical opinions and recommendations, and shall interface with the OMSP, as necessary.	I	10 CFR 851.23 and 10 CFR 851, App A, item 8; 29 CFR 1910.1001

2.10 Hazard Communication for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line managers supervising covered asbestos work shall ensure communication of asbestos hazards during asbestos activities to all affected employers and employees, including those on multi-employer work sites, contractors/subcontractors, facility/building owners and building occupants. The communication shall include information on the engineering controls, work practices, other measures taken to prevent asbestos exposure and the requirements of regulated areas, when established.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line managers supervising covered asbestos work shall request from the facility manager/building owner documentation describing the presence, location and condition of the ACM or PACM for the worksite.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6;

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			29 CFR 1910.1001
3.	If any new asbestos-containing products are installed (i.e., certain liquid roofing mastics and cements), line management shall provide information on the location, quantity and product specifications to the facility manager/building owner to ensure the facility inventory of asbestos is updated.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	During the course of work, if ACM or PACM is newly discovered, line management supervising the covered asbestos work shall identify the quantity and material type, shall ensure affected employees and building occupants have been provided appropriate protective measures and shall contact the facility manager or designated building owner within 24 hours.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	<p>Line managers supervising covered asbestos work shall ensure that labels are affixed to containers of asbestos, including waste containers. Ensure labels contain the following information, in accordance with 29 CFR 1910.1001:</p> <p style="text-align: center;">DANGER</p> <p style="text-align: center;">CONTAINS ASBESTOS FIBERS</p> <p style="text-align: center;">MAY CAUSE CANCER</p> <p style="text-align: center;">CAUSES DAMAGE TO LUNGS</p> <p style="text-align: center;">DO NOT BREATH DUST</p> <p style="text-align: center;">AVOID CREATING DUST</p> <p>NOTE: <i>Labels are not required when:</i></p> <ul style="list-style-type: none"> • 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 PEL or EL, or • Asbestos is present in concentrations less than 1.0%. 	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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2.11 Employee Information and Training for Asbestos Workers

#	REQUIREMENT	TYPE V or I	SOURCE
1.	Line management shall ensure that initial training is provided, prior to job assignment, to employees exposed to asbestos levels at or above the PEL or EL. The facility S&H professional shall be consulted to determine training requirements for specific activities.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	Line management shall ensure that annual refresher training, is provided for employees exposed to asbestos levels at or above the PEL or EL.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	Line management shall ensure that all employees performing non-construction housekeeping/custodial activities in areas containing ACM or PACM receive initial and annual asbestos awareness training. <i>NOTE: The "Training Selection Tools" maintained by the HMIS training organization may be consulted as an aid in determining which HMIS training class is suitable for employees doing asbestos work covered by this RD.</i>	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	HMIS training, in consultation with the HMIS S&H asbestos Interpretive Authority, shall ensure that asbestos training courses are in compliance with the provisions of 29 CFR 1910.1001(j)(7).	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	HMIS training shall provide verification of an employee's successful completion of training to the employee and employee's manager.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
6.	HMIS training shall maintain all employee records of training required by this program for at least one year beyond the length of employment.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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2.12 Multi-Employer Workplace Requirements for Asbestos Work Activities

#	REQUIREMENT	TYPE V or I	SOURCE
1.	HMIS line management shall be responsible for determining the status of compliance with all requirements in this RD for any HMIS subcontractors performing covered asbestos work on/at a facility under his/her jurisdiction and/or which potentially exposes employee he/she manages to asbestos and to implement measures to ensure the subcontractor comes into compliance, when necessary.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
2.	On multi-employer work sites where subcontractor work activities impact ACMs or PACMs, subcontractor line management supervising the asbestos work shall notify all affected employers of work activities and planned measures to prevent asbestos exposure.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
3.	When activities require the establishment of a regulated area for asbestos work covered under this RD, subcontractor line management shall provide written notification of planned activities to the facility manager (or designated building owner) and other worksite employers. Include information on the nature of the work with ACMs or PACMs, the requirements related to the regulated area and the preventive measures to prevent exposure to others on the work site.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
4.	If asbestos hazards are created, subcontractor line management shall implement appropriate measures to abate the hazard and notify the facility manager or designated building owner and managers of other employees working in the area affected by the hazard.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001
5.	Subcontractor line management shall ensure protective measures are implemented for employees if they may be exposed to asbestos hazards created by other workforces.	I	10 CFR 851.23 and 10 CFR 851, App A, item 6; 29 CFR 1910.1001

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3.0 RECORD IDENTIFICATION

All records generated by this procedure are to be processed and maintained in accordance with HMIS-PRO-RM-10588, *Records Management Processes*.

Records Capture Table

Name of Document	Submittal Responsibility	Retention Responsibility
Documentation of ACMs and/or PACMs.	Facility/Project Management	Facility/Project Management
Records supporting the rebuttal of PACM (see section 1.0 of this RD).	Facility/Project Management	Facility/Project Management
Periodic surveillances of ACM condition	Facility/Project Management	Facility/Project Management
Facility assessments	Facility/Project Management	Facility/Project Management

4.0 SOURCES**4.1 Source Requirements**

10 CFR 851, *Worker Safety and Health Program*
 29 CFR 1910.134, *Respiratory Protection*
 29 CFR 1910.141, *Sanitation*
 29 CFR 1910.1001, *Asbestos (General Industry)*
 MIL-STD 282, *Filter Units, Protective Clothing, Gas-Mask Components and Related Products: Performance Test Methods*
 ISO 29463, *High-Efficiency Filters and Filter Media for Removing Particles in Air.*
 29 CFR 1926.1101, *Asbestos (Construction)*
 40 CFR, Part 763, *Asbestos*
 29 CFR 1910.1020, *Access to Employee Exposure and Medical Records*

4.2 References

ANSI Standard Z9.2, *Design and Operation of Local Exhaust Systems*
 DOE-0352, *Hanford Site Respiratory Protection Program*
 HMIS-PRO-SP-409, *Industrial Hygiene Monitoring, Reporting and Records Management*
 HMIS-PRO-SP-11058, *Occupational Medical Qualification and Monitoring using EJTA*
 SP-PRO-SP-17916, *Industrial Hygiene Baseline Hazard Assessments.*
 HMIS-RD-SP-15097, *Asbestos Control - Construction Industry*

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Appendix A. Glossary

Asbestos includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

Asbestos-containing material (ACM) means any material containing more than 1% asbestos.

Authorized person means any person authorized by the employer and required by work duties to be present in regulated areas.

Building/facility owner is the legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities covered by this standard take place.

Certified Industrial Hygienist (CIH) means one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

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

Excursion Limit (EL) 29 CFR 1910.1001 establishes an EL of 1.0 fiber/cc of air as averaged over a sampling period of 30 minutes.

Fiber means a particulate form of asbestos 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

High-efficiency particulate air (HEPA) filter means a filter capable of trapping and retaining at least 99.97 percent of 0.3 micrometer diameter mono-disperse particles.

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

Industrial hygienist means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

Miscellaneous Materials (Misc) all remaining ACMs used in construction that are not characterized as surfacing materials or TSI. Common examples include floor tile, electrical insulators, cement-asbestos board materials and gasket material.

PACM means presumed asbestos containing material.

Permissible Exposure limit (PEL) 29 CFR 1910.1001 establishes a PEL of 0.1 fiber/cc of air as an 8-hour Time-Weighted Average (TWA).

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Presumed asbestos containing material (PACMs), as defined in 29 CFR 1910.1001, are all TSI, sprayed on and troweled on surfacing materials, asphalt and vinyl flooring materials found in buildings constructed no later than 1980. Due to potential of ACM being installed after 1980, for purposes of this RD, PACMs will be conservatively identified in buildings constructed no later than 1985.

Regulated area means an area established by the employer to demarcate areas where airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limits.

Surfacing ACM means surfacing material which contains more than 1 percent asbestos.

Surfacing material (SM) means material that is sprayed, 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).

Thermal System Insulation (TSI) means ACM applied to pipes, fittings, boilers, breeching, tanks, ducts or other structural components to prevent heat loss or gain.

Thermal System Insulation ACM means thermal system insulation which contains more than 1 percent asbestos.