

Asbestos

1. Purpose

The purpose of this policy is to provide guidance in the proper maintenance, handling, removal, and disposal of asbestos-containing materials (ACM) or presumed ACM (PACM). Proper control of asbestos fibers will minimize the potential for asbestos exposure-related illnesses such as lung cancer and mesothelioma.

The requirements stated in this policy reflect EPA, OSHA, and DOT rules. In addition, USPL facilities must follow applicable state and local regulations, which may be more stringent than federal regulations.

2. Scope

This policy applies to all BP and contractor personnel who maintain, handle, remove, or dispose of asbestos-containing materials and who manage BP facilities where asbestos-containing materials (ACM), presumed asbestos-containing materials (PACM), or suspect materials are present. Other policies in this safety manual and in the BP contractor manual contain additional requirements related to working with or around asbestos:

- Hazard Communication (HAZCOM)
- Personal Protective Equipment (PPE)
- Respiratory Protection
- *Contractor Management Manual*

3. Minimum Requirements

	Minimum Requirements	Supporting Documentation
1.	Asbestos-containing materials (ACM) must not be installed or reinstalled in USPL facilities.	Section 6
2.	All thermal system insulation (TSI), presumed asbestos-containing materials (PACM), and surfacing materials installed prior to 1980 shall be treated as ACM until sampling and analysis indicate otherwise.	Section 6
3.	All ACM, PACM, and suspect materials shall be identified and maintained in a condition that will prevent the release of asbestos fibers.	Section 7
4.	All Class I asbestos work must be performed by adequately trained and licensed contract personnel.	Sections 6, 10, 12
5.	Evaluation of asbestos containing coal tar pipe wrap for friability will be performed by personnel trained in the regulatory requirements for evaluation and removal of mastics.	Sections 6, 10 & 12
6.	All repair, maintenance, and custodial work involving ACM, PACM, or suspect materials shall be performed by adequately trained personnel.	Sections 6, 10 & 12
7.	Employees, contractors and other building occupants working in areas where ACM, PACM, or suspect materials are present shall be informed of the location of such materials by the presence of labels, signs, postings, etc.	Section 9 & 10, Appendices II and III

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8.	Removal and disposal of ACM must comply with all applicable local, state, and federal regulations and the requirements of this policy.	Sections 10 and 11
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4. Definitions

Asbestos—A generic commercial name given to a variety of naturally occurring fibrous minerals that possess high tensile strength, flexibility, and resistance to chemical and thermal degradation. These minerals include chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and their chemically treated and altered forms. Once a common component of building materials, asbestos can release microscopic fibers that may remain suspended in air for hours or days. Asbestos exists in either a friable or non-friable state. In its non-friable state, asbestos poses no immediate health hazard. See also Friable ACM; Non-friable ACM.

Asbestos-containing material (ACM)—Any material containing more than 1% asbestos. The following are common ACM sources:

Surfacing Materials

- Fireproofing
- Acoustical plaster
- Finish plasters

Thermal System Insulation (TSI)

- Equipment, piping, and fitting insulation
- Boiler, breeching, duct, and tank insulation

Miscellaneous Materials

- Pipe wrap (tar and felt paper)
- Vinyl or asphalt flooring
- Gaskets, seals, sealants
- Vibration isolators
- Lab tables and hoods
- Cementitious board (Transite)
- Packing inside electrical seal-offs (Chico)
- Roofing material

The presence of asbestos in a material is determined by laboratory analysis (see Appendix I).

Asbestosis—A breathing disorder caused by inhaling asbestos fibers and characterized by scarred lung tissue and diminished breathing capacity.

Class I asbestos work—Activities involving the removal of (1) asbestos-containing thermal system insulation or (2) asbestos-containing surfacing materials that have been sprayed or troweled on (e.g., plasters, fireproofing, and acoustical treatments).

Class II asbestos work—Activities involving the removal of asbestos-containing wallboard, Transite, floor tile and sheeting, non-intact pipeline wrap, roofing, siding shingles, friable gaskets, construction mastics, and packing inside electrical seal-offs. Separation of tank seal wiper fabric from tank seal shoe structure is also considered Class II asbestos work.

Class III asbestos work—Any repair and maintenance operation that may disturb ACM and PACM but that does not have asbestos removal as its primary purpose. Class III work includes drilling, cutting, sanding, sawing, or breaking asbestos-containing thermal system insulation or surfacing materials. The amount of asbestos-containing waste resulting from Class III work must not exceed one glove bag.

The removal of tank roof seal systems in which the metal shoe and fabric wiper are removed together intact is considered Class III work.

Class IV asbestos work—Maintenance and custodial activities during which employees may contact but do not disturb ACM or PACM and activities to clean up dust, waste, and debris from Class I, II, and III work.

Cleaning, waxing, and buffing asbestos-containing floor tiles are examples of Class IV asbestos work.

Class 9—The Department of Transportation’s HAZMAT classification for asbestos-containing materials. This classification is used for any miscellaneous hazardous material that presents a hazard during transport but does not meet the DOT definition of any other hazard class.

Competent Person—One who is capable of identifying existing asbestos hazards and selecting and implementing appropriate controls for asbestos exposures. For Class I and Class II asbestos work, a Competent Person is specially trained to meet the criteria of EPA's Model Accreditation Plan for Supervisors.

For the assessment of pipeline coatings that fall under Class III and IV work, a Competent Person is someone (1) who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees and (2) who has the authority to take prompt corrective measures to eliminate the identified hazards. Duties of a Competent Person include making frequent inspections of job sites, materials, and equipment; interpreting air monitoring data as it pertains to asbestos; and developing Negative Exposure Assessment (NEA) from existing or historical data of jobs of a similar nature with respect to duration, conditions, and removal methods. The Competent Person must be knowledgeable in these topics as well as the following competencies:

- Methods of determining the presence of asbestos-containing material
- Understanding and interpreting air monitoring data
- Understanding a Negative Exposure Assessment

Encapsulation—A process to surface-coat, cover, seal, or paint asbestos-containing material to prevent surface deterioration and fiber release.

Friable ACM—ACM that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure (e.g., thermal system insulation and surfacing material such as plasters and fireproofing).

Intact—A term used to describe asbestos-containing pipe wrap, gaskets, and other material that *has not* crumbled, been pulverized, or otherwise deteriorated to the point that the asbestos fibers are no longer likely to be bound with their matrix. For example, coal-tar felt can crumble, but the material is intact if the asbestos-containing felt remains adhered to the coal tar.

Mesothelioma—A type of cancer that affects the tissue surrounding the lungs and is strongly associated with asbestos exposure.

Negative Exposure Assessment—A demonstration by the employer that employee exposure during an operation is expected to be consistently below the PEL.

Non-friable ACM—ACM that, when dry, cannot be crumbled, crushed, or reduced to powder by hand pressure (e.g., roofing, Transite, vinyl or asphalt flooring, gaskets, and intact pipe wrap). *Note:* Intact pipe wrap is any coal-tar wrap in which the layer of asbestos felt is bound to the coal tar.

Non-intact—A term used to describe asbestos-containing pipe wrap, gaskets, and other material that has crumbled, been pulverized, or otherwise deteriorated to the point that the asbestos fibers are no longer likely to be bound with their matrix and the material may release fibers.

For example, if the coal-tar binding of a pipeline coating has weathered or eroded so that the asbestos felt material is exposed and friable, the material is non-intact.

Non-regulated asbestos-containing material (Non-RACM)—Non-friable ACM (e.g., pipe wrap, asbestos-containing gaskets) that is removed intact or is cut by slicing, sheering, or punching using manual hand tools.

Permissible Exposure Limit (PEL)—The maximum amount or concentration of a toxic substance to which an employee may be exposed under OSHA regulations during any 8-hour shift of a 40-hour week.

For asbestos, the PEL is 0.1 fiber per cubic centimeter (f/cc) of air as an 8-hour time-weighted average (TWA) or 1.0 f/cc as averaged over a sampling period of 30 minutes (known as the excursion or short-term limit).

Presumed asbestos-containing material (PACM)—Thermal system insulation and surfacing material found in buildings constructed no later than 1980. *Note:* Although not strictly defined as PACM, asphalt and vinyl flooring installed no later than 1980 must also be presumed to contain asbestos under the OSHA asbestos standards unless analysis proves otherwise.

Regulated area—A demarcated area where airborne concentrations of asbestos fibers exceed or may be reasonably expected to exceed the Permissible Exposure Limit.

Regulated asbestos-containing material (RACM)—Friable ACM or non-friable ACM that has become friable by the action imparted on it, such as grinding, sanding, or abrading. Removal of RACM may require EPA notification, depending on the quantity.

Surfacing ACM or PACM—ACM or PACM that is sprayed, troweled on, or otherwise applied to surfaces (e.g., acoustical plaster on ceilings, fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

Suspect asbestos-containing material—Any material that does not meet the definition of PACM but is suspected of containing asbestos (based on its appearance, usage, or age) and has not been tested to determine whether it is ACM. Suspect ACM includes thermal system insulation or surfacing material installed after 1980. *Note:* The term “suspect ACM” does not appear in the OSHA asbestos standards but is commonly used in the construction industry.

Thermal system insulation (TSI)—Asbestos-containing insulation applied to pipes, fittings, boilers, tanks, ductwork, or other components to prevent heat loss or gain.

Time-weighted average (TWA)—A value that represents the average exposure measured over a typical workday (usually an 8-hour or 12-hour shift).

Transite—A composite material that was previously manufactured from a combination of asbestos fibers and Portland cement.

Wetting agent—Any surface-active agent that, when added to a liquid (usually water), causes the liquid to spread more easily over or penetrate a solid surface. Amended water (a mixture of water and detergent or a similar surfactant) is a commonly used wetting agent in asbestos removal operations.

Wet methods—The treatment of asbestos-containing material with a wetting agent to prevent the release of fibers during removal or repair operations.

5. Roles and Responsibilities

5.1. BP Facility/Building Managers

- A. Notify employees, prospective contractors, multi-employer worksites, and building occupants of the locations where ACM is present, the quantity of ACM they may encounter, and the precautions that must be taken to control airborne asbestos fibers (see Appendices II and III for notification forms).
- B. Ensure that all ACM, PACM, and suspect material are maintained in good condition at the facility to prevent deterioration and potential release of fibers.

5.2. Project Managers and Facility Engineers

- A. Ensure that as part of project execution plans, all ACM is identified, properly removed, and disposed of according to all applicable regulations prior to any remodeling, repair, refurbishing, or new construction that may disturb ACM, PACM, or suspect asbestos-containing material.
 - 1. Ensure personnel involved in projects where the removal of ACM and asbestos containing Coal Tar Pipe Wrap and Gaskets have the appropriate level of documented training for the work they are to perform.
 - 2. Complete the Notification of Demolition and Renovation form (see Appendix I), if required, and submit it to the appropriate EPA office.
 - 3. Manage shipment manifests for the transport and disposal of asbestos waste.
- B. Ensure that no ACM is installed or reinstalled in BP facilities and buildings.

5.3. USPL Environmental Coordinators

- A. Environmental Coordinators shall work with BP Facility/Building Managers, Project managers and facility Engineers to ensure that asbestos containing materials are properly identified, removed and disposed of in compliance with this policy and all applicable regulations.

5.4. All Employees and Contractors

- A. Report (preferably in writing) any disturbed or deteriorated ACM, PACM, or suspect asbestos-containing material to a supervisor or manager.

6. General Requirements

- A. The friability of asbestos containing coal tar pipe wrap will be evaluated by a trained BP employee or contractor prior to removal. Trained BP employees or contractors can remove only intact coal tar pipe wrap. Non-intact coal tar pipe wrap must be removed by a certified, licensed asbestos removal contractor only.
- B. All pipe gaskets will be treated as ACM and removed according to ACM gasket removal requirements unless the gasket is known to be non-ACM.
- C. All thermal system insulation (TSI), presumed asbestos-containing materials (PACM), and surfacing materials installed prior to 1980 shall be treated as ACM until sampling and analysis indicate otherwise.
- D. All ACM, PACM, and suspect ACM in USPL facilities shall be identified using signs, labels, and other means and documented on the Asbestos Register Form or in an Asbestos-Containing Materials Report. Asbestos Register Forms and/or Asbestos Reports shall be retained in the facility's files indefinitely or until the asbestos-containing material has been removed.
- E. ACM, PACM, and suspect ACM shall not be disturbed unless appropriate precautions and handling procedures are implemented by trained personnel.
- F. Any ACM, PACM, or suspect ACM that is inadvertently disturbed or discovered shall be reported immediately (preferably in writing) to supervision. If necessary, the material shall be identified as to its asbestos content, and follow-up control measures shall be initiated if necessary.
- G. All asbestos survey results and reports must be shared with the appropriate Safety Coordinator for further guidance.
- H. The installation or reinstallation of ACM in USPL facilities is prohibited.
- I. Removal of any ACM requires the following:
 - 1. Appropriate notifications prior to removal (see Sections 8 and 9)
 - 2. Appropriate training (see Section 12)
 - 3. Appropriate protections
 - 4. Wet methods (if applicable, see Section 10)
 - 5. Proper cleanup ("Bag it/Tag it") and disposal (see Section 11)
- J. Asbestos hazards are to be controlled with the following measures:
 - 1. Removal
 - 2. Isolation
 - 3. Clean-up
 - 4. Encapsulation
 - 5. In-place management

- K. Any BP employee or contractor who participates in work activities involving asbestos shall have appropriate training for the task as outlined in Section 12.

Note: Typical requirements for asbestos work by type and classification are summarized in Appendix V.

7. Asbestos Management

In-place management of asbestos-containing materials is an effective strategy until removal is warranted either by their deteriorating condition or by renovation or demolition activities in the area. In-place management focuses on maintaining the ACM in good condition, periodically monitoring its condition, preventing or limiting activities that would disturb the ACM, and implementing response actions in the event of ACM damage and potential fiber release.

- A. All materials identified as ACM as well as all PACM and suspect ACM shall be maintained in a condition that will prevent the release of asbestos fibers.
- B. All ACM, PACM, and suspect ACM shall be visually inspected at least once a year to determine their condition and the likelihood of fiber release. The Asbestos Register Form can be used to document annual inspections.
- C. If personnel have been alerted to possible exposure hazards and instructed in the proper work procedures to avoid disturbing ACM, work is allowed in areas with non-friable ACM with the following exceptions:
 - 1. No grinding, sanding, abrasive blasting, drilling, or mechanical chipping shall be performed on ACM unless negative-pressure enclosures or HEPA-filtered exhaust systems are used.
 - 2. Dry sweeping and using compressed air on ACM are prohibited.
- D. Any ACM, PACM, or suspect ACM that is found to be in a potentially friable condition because of damage or deterioration must be immediately repaired or removed in accordance with the procedures in Section 10.

7.1. Flooring

- A. Floor tile that contains or is presumed to contain asbestos must be maintained in an abrasion-free manner to prevent the release of airborne fibers.
 - 1. Sanding of ACM or PACM flooring material is prohibited.
 - 2. Stripping of finishes shall be performed with low-abrasion pads at speeds lower than 300 rpm in conjunction with wet methods.
 - 3. Burnishing or dry buffing may be performed only if the flooring has a sufficiently thick finish so that the pad cannot abrade the flooring.

7.2. Pipe Wrap (non-Thermal System Insulation)

- A. If lengths of pipe coated with asbestos-containing pipe wrap are to be reused, moved, disposed of, or otherwise relocated, any associated intact pipe wrap should be removed from the pipe using the procedures in Section 10.3.2 and disposed of according to the waste disposal requirements outlined in Section 11. If asbestos containing pipe wrap is not removed prior to disposal, the pipe **and** all associated pipe wrap must be labeled and disposed of as asbestos waste according to the applicable requirements in Section 11.
- B. Pipe wrap on pipe stored in pipe yards shall not be disturbed.

8. EPA Notification

The following requirements are based on the EPA's National Emission Standards of Hazardous Air Pollutants (NESHAP) asbestos regulations.

- A. Any demolition or renovation project that involves removing, cutting, dislodging, drilling, or similarly disturbing more than 160 square feet or 260 linear feet of RACM requires written EPA notification.
 - 1. The notification form (see Appendix I) must be sent to the appropriate federal EPA or state agency at least 10 working days before the work begins.

Note: Pipe wrap, vinyl flooring, roofing material, or Transite removed with non-powered hand tools does not require Federal EPA notification.

Note: State or local notification requirements may vary. Contact your District Safety or Environmental Coordinator for further guidance.
 - 2. For an emergency project, the EPA must receive notification at least one working day before the work begins.
- B. Demolition or renovation projects involving less than 160 square feet or 260 linear feet of RACM have no federal notification requirements but must comply with any applicable state or local notification requirements. Contact your District Safety or Environmental Coordinator for additional guidance.

9. Personnel Notification and Hazard Communication

- A. All employees, contractors, and building occupants must be notified—verbally, in writing, or by posting (labeling, signage)—of the location and quantity of ACM and PACM they may encounter and the need to take precautions to contain potential airborne asbestos (see Appendices II and III for notification forms). *Note:* This does not apply to coal tar pipe wrap or gasket materials.
- B. Products and containers containing asbestos shall be labeled with a warning sign that reads: “Danger, Contains Asbestos Fibers, Avoid Creating Dust, Cancer and Lung Disease Hazard” (see Appendix III).
- C. Regulated areas shall be marked with signs that read: “Danger, Asbestos, Cancer and Lung Disease Hazard, Authorized Personnel Only, Respirators and Protective Clothing Are Required in This Area” (see Appendix III).

10. Removal Requirements and Procedures

10.1. General Requirements

- A. Removal and handling of asbestos-containing materials must comply with all applicable local, state, and federal regulations and the requirements of this policy.
- B. For Class I, Class II, and Class III asbestos work, other employees at the site must be informed of the nature of the work and the measures that will be taken to prevent or control exposure to asbestos fibers (e.g., the use of wet methods and regulated areas).
- C. Removal methods must include impermeable drop cloths or plastic sheeting, wet methods, and a HEPA vacuum to collect dust. Debris must be bagged at the end of the workday.
- D. No sanding, grinding, or mechanical chipping, cutting, sawing, or dry sweeping of ACM is permitted.
- E. Records of exposure monitoring, medical surveillance, training, and required notifications must be retained.

10.2. Class I Asbestos Work

- A. Removal of asbestos-containing thermal system insulation or surfacing material must be performed by a trained, licensed, and qualified asbestos removal contractor.

10.3. Class II Asbestos Work

- A. Class II asbestos work is to be performed by workers who are trained in and qualified for Class II asbestos work. (See Section 12 for training requirements.)
- B. The work must be supervised and inspected frequently and regularly by a Competent Person trained in all aspects of asbestos removal and handling. Only a Competent Person can create a Negative Exposure Assessment. (See Section 12 for training requirements.)
 - 1. Negative Exposure Assessments must be based on representative monitoring data that
 - a) is from the past 12 months; and
 - b) is from other jobs closely resembling the processes, materials, control methods, and conditions of current operation; and
 - c) demonstrates exposures below OSHA limits.
- C. The material shall be wetted prior to and during removal unless this presents a significant safety hazard.
- D. The material shall be removed in an intact state whenever possible.
- E. Cutting, abrading, or breaking ACM material shall be avoided unless it can be done with methods that control fiber release (e.g., wet methods, HEPA vacuum).
- F. The work must be performed within a regulated area demarcated with signs that read: "Danger, Asbestos, Cancer and Lung Disease Hazard, Authorized Personnel Only."
- G. If a Negative Exposure Assessment has not been made, the following additional requirements apply:
 - 1. Daily personal exposure monitoring must be performed.
 - 2. Demarcation signs must also include the following statement: "Respirators and Protective Clothing Are Required in This Area" (see Appendix III).
 - 3. Workers must wear protective clothing. A decontamination area with HEPA vacuum and equipment-cleaning capabilities must be provided adjacent to the regulated area.
 - 4. Workers must wear respiratory protection. A half-mask respirator with a HEPA cartridge is required at a minimum.

10.3.1. Floor Tile

- A. Removal of asbestos-containing floor tile must be performed using the following procedures:
 - 1. The flooring material or its backing shall not be sanded or abraded.
 - 2. If vacuums are used, they must be equipped with HEPA filters and disposable collector bags, and they must have metal floor tools without brushes.
 - 3. Resilient sheeting must be removed by using non-powered cutting tools and wetting the snip point and any delaminating areas. Ripping up resilient floor sheeting is prohibited. All associated mastic and backing shall be considered ACM unless analysis proves otherwise.
 - 4. Scraping of residual adhesive and/or backing must be done using wet methods and non-powered hand tools.
 - 5. Dry sweeping is prohibited.
 - 6. Tiles shall be removed intact.

Note: If heating is used, wet methods can be omitted.

10.3.2. Roofing Material

- A. Removal of asbestos-containing roofing material must be performed using the following procedures:
 - 1. Roofing material shall be removed intact whenever possible. Wet methods are to be used if the material cannot be removed intact unless wetting would create a safety hazard.
 - 2. Cutting machines shall be continuously misted unless the mist creates a safety hazard.
 - 3. Dust collectors equipped with HEPA filters must be used to clean up all dust and debris from the cutting operation.
 - 4. Removed ACM roofing material must be lowered rather than dropped to the ground using a crane, hoist, or dust-tight chute.
 - 5. After lowering to the ground, ACM roofing material must be transferred into a closed receptacle.

10.3.3. Transite

- A. Removal of Transite siding, shingles, or panels must be performed using the following procedures:
 - 1. Transite material must be sprayed with amended water prior to removal.
 - 2. Cutting, abrading, or breaking Transite material is prohibited.
 - 3. Removed Transite shall be lowered to the ground rather than dropped.
 - 4. Hand tools and wet methods must be used to remove any nails, screws, or other hardware from Transite panels.

10.3.4. Pipe Wrap Removal Requirements

Non-friable pipe wrap is not considered regulated ACM when it is intact and manually removed with hand tools that slice, punch, or shear the material (i.e., normal hand removal methods). Respiratory protection, posting of regulated areas, protective clothing, medical surveillance, and exposure assessment are *not* required for removing intact pipe wrap. Removal of non-intact pipe wrap is considered Class II asbestos work and must be performed by trained and licensed asbestos abatement contractors.

- A. Prior to the start of the job and as needed during a job, a trained Competent Person (completion of the USPL coal tar pipe wrap removal training or contractor's equivalent training), capable of identifying asbestos hazards and selecting appropriate control strategies must conduct an inspection of the work site and determine whether the pipe wrap material is intact and will likely remain intact during removal.
- B. The pipe wrap shall be removed only with manual methods that will not cause the material to become friable. The material *shall not* be sanded, abraded, or ground.
- C. All removal or disturbance of asphaltic wrap shall be performed using wet methods.
- D. Removal of pipe wrap must be performed by trained workers. (See Section 12 for training requirements.)

10.3.5. Gasket Removal Requirements

- A. Asbestos-containing gaskets must be removed with the following procedures:
 - 1. Restrict access to the worksite.
 - 2. Position a plastic drop cloth under the flange to collect any debris.
 - 3. Try to remove the gasket in one piece or several large pieces. If portions of the gasket cannot be easily removed, use a hand scraper or putty knife with a wetting agent (e.g., amended

water, lubricating oil, or a product like WD-40) to remove the remainder of the gasket. Do not use powered hand tools to remove the gasket.

Note: Intact gaskets can be safely removed without additional PPE. If a gasket has deteriorated to the point of being friable, a qualified and trained Class II asbestos abatement worker shall be called in to remove and dispose of the gasket.

- B. Disposal of asbestos-containing gaskets must comply with the requirements in Section 11.3.

10.4. Class III Asbestos Work

The removal of tank roof seal systems in which the metal shoe and fabric wiper are removed together intact is also in this category.

- A. Class III asbestos work is to be performed by workers who are trained in and qualified for Class III asbestos work. (See Section 12 for training requirements.)
- B. The work must be evaluated by an adequately trained Competent Person as defined in this policy. Only a Competent Person can create a Negative Exposure Assessment (see Appendix VI).
 - 1. Negative Exposure Assessments must be based on representative monitoring data that
 - a) Is from the past 12 months; and
 - b) Is from other jobs closely resembling the processes, materials, control methods, and conditions of current operation; and
 - c) Demonstrates exposures below OSHA limits.
- C. The work shall be performed using wet methods.
- D. The work must be performed within a regulated area demarcated with signs that read: "Danger, Asbestos, Cancer and Lung Disease Hazard, Authorized Personnel Only."
- E. The work shall be performed using local exhaust, when feasible.
- F. When the work involves drilling, cutting, abrading, sanding, chipping, breaking or sawing of thermal system insulation or surfacing material, the work area shall be isolated using mini-enclosures or glove bags and impermeable drop cloths.
- G. If a Negative Exposure Assessment has not been made, the following additional requirements apply:
 - 1. Representative personal exposure monitoring must be performed.
 - 2. The work area shall be contained using impermeable drop cloths and plastic barriers or the equivalent.
 - 3. If the work disturbs ACM thermal system insulation or surfacing material, workers must wear respiratory protection. A half-mask respirator with a HEPA cartridge is required at a minimum.

10.5. Class IV Asbestos Work

- A. Class IV asbestos work shall be performed by workers who are trained in and qualified for Class IV asbestos work. (See Section 12 for training requirements.)

11. Waste Disposal

11.1. General Requirements

- A. Disposal of asbestos-containing materials must comply with all applicable local, state, and federal regulations and the requirements of this policy.

- B. All asbestos-containing waste shall be disposed of at a BP-approved waste facility. Contact HSE for guidance.
- C. A Waste Shipment Record (Appendix IV) must accompany the waste to the disposal site. Items 1 through 9 must be completed by the USPL project manager or facility engineer.
Note: The shipping code for friable asbestos waste is RQ, ASBESTOS, 9 NA2212 PG III.
- D. During loading and unloading, the vehicle that transports the asbestos waste must be marked with a 20-by-14-inch sign that reads (in 3/4-inch or 1-inch lettering): “Danger, Asbestos Dust Hazard, Cancer and Lung Disease Hazard, Authorized Personnel Only.”

11.2. Friable ACM

- A. Friable ACM waste from Class I asbestos work must be disposed of as follows:
 - 1. The material must be wetted, double-bagged or similarly contained, sealed, and labeled with the following information:
 - a) The name of the waste generator
 - b) The location where the waste was generated
 - c) A warning sign that reads: “Danger, Contains Asbestos Fibers, Avoid Creating Dust, Cancer and Lung Disease Hazard” (see Appendix V)
- B. The vehicle that transports the waste must comply with the requirements in Section 11.4.

11.3. Non-Friable ACM

For disposal purposes, intact pipe wrap is considered non-friable ACM.

- A. Non-friable ACM waste must be disposed of as follows:
 - 1. The material must be bagged or contained, sealed, and labeled with following information:
 - a) The name of the waste generator
 - b) The location where the waste was generated

11.4. Transport of RACM Waste

- A. When RACM is transported, the containers and the transport vehicle must be marked with a Class 9 Department of Transportation (DOT) label.
 - 1. The Class 9 label must be either a white and black-striped diamond placard or an orange panel (see Appendix V).
 - 2. The label must include the international four-digit UN number for asbestos shipments, “UN 2212.”
 - 3. If the capacity of the dumpster hauling the RACM waste is less than 133.8 cubic feet, the DOT placard is required on only two opposite sides. If the dumpster capacity is greater than this amount, the DOT placard is required on all four sides.
- B. A hazardous waste manifest must accompany the waste (see the Waste Shipment Record in Appendix VI). For compliance with DOT regulations for RACM shipments, the following code must be entered on the manifest: RQ, ASBESTOS, 9, NA 2212 PG III.
 - 1. The transporter must fill out the appropriate section of the Waste Shipment Record (WSR) and give a copy of the form to the landfill operator. The operator will return the completed WSR to the generator within 30 days
 - 2. If USPL has not received a copy of the completed WSR within 35 days of the date when it was accepted by the initial transporter, the USPL project manager or building engineer must contact the transporter or landfill to inquire about the status of the WSR.

3. If a copy of the WSR is not received within 45 days, USPL must write to the EPA or responsible agency and report that confirmation of the delivery is still pending.

12. Training

Training requirements for asbestos work by type and classification are summarized in Appendix V.

- A. Procedures for safely handling asbestos and other relevant information on asbestos shall be included in annual safety training for affected employees. The training must also include the following:
 1. General asbestos information (methods of recognizing asbestos, health effects, the relationship between smoking and asbestos exposure)
 2. The nature of operations that could result in exposure
 3. Respirators
 4. Work practices
 5. Medical surveillance
 6. OSHA asbestos standards
 7. Requirements for Competent Persons
- B. Contractors who perform Class I asbestos work must be qualified, licensed asbestos removal contractors who employ qualified personnel, including a Competent Person trained in the requirements of OSHA asbestos standard 1926.1101. If the job involves the removal of RACM,
 1. the Competent Person must also be trained in the requirements of EPA asbestos regulations 40 CFR 61.145;
 2. certification of such training must be posted on-site; and
 3. contractor personnel must receive on-site individual training in 40 CFR 61.145.
- C. Personnel who perform Class II asbestos work must complete 8 hours of annual “hands-on” training that includes the following:
 1. General asbestos information (methods of recognizing asbestos, health effects, the relationship between smoking and asbestos exposure)
 2. Specific work practices and controls
 3. Nature of asbestos operations
 4. Respiratory protection
 5. Medical surveillance
 6. OSHA asbestos standards
 7. Smoking cessation programs
 8. Posting and labeling requirements
- D. Employees who perform pipe wrap, gasket, or tank seal removal work must complete training, including “hands-on/face to face” training, in the following:
 1. Identification and recognition of asbestos-containing materials and their uses and characteristics
 2. Potential health effects of asbestos, PELs and risk, nature and latency of asbestos-related diseases, exposure routes, dose response, the relationship between smoking and exposure, and the availability of smoking cessation programs

3. OSHA asbestos standards
4. Alternative handling methods
5. Recognition and handling of intact and non-intact material
6. Work practices and procedures, including manual removal methods, cleanup, and disposal

Note: No specific training period is required for the removal of gaskets and pipe wrap.

- E. Personnel who perform Class III asbestos work must complete 16 hours of initial “hands-on” training and annual refresher training consistent with the training requirements specified by EPA for custodial and maintenance crews.
- F. Personnel who perform Class IV asbestos work must complete at least 2 hours of training that includes the following:
 1. Locations of identified or suspected asbestos-containing surfacing materials and flooring in their respective USPL facility
 2. Recognition of damage, deterioration, and delamination of asbestos-containing building materials
- G. Employee training records shall be maintained for one year beyond the last date of employment.

13. References

1. BP Asbestos Management Manual.
2. EPA, 40 CFR 61, “National Emission Standards for Hazardous Air Pollutants.”
3. EPA, “National Emission Standards for Hazardous Air Pollutant: Asbestos NESHAP Revision,” Final Rule, *Federal Register*, November 20, 1990.
4. OSHA, U.S. Department of Labor, 29 CFR 1910.1001, “Asbestos [General Industry],” and 1926.1101, “Asbestos [Construction].”
5. OSHA, U.S. Department of Labor, “Occupational Exposure to Asbestos: Final Rules,” *Federal Register*, August 10, 1994; and “Occupational Exposure to Asbestos: Corrections,” *Federal Register*, June 29, 1995.

Appendix I

Notification of Demolition and Renovation

This example of the Notification of Demolition and Renovation form is for reference only. For a downloadable version of the form, go to the HSSE website. The electronic version may be filled out online or printed and completed as hard copy.

Notification of Demolition and Renovation			
Operator Project No.	Postmark	Date Received (MM/DD/YY)	Notification No.
I. Type of Notification (O-Original <input type="checkbox"/> R-Revised <input type="checkbox"/> C-Canceled <input type="checkbox"/>)			
II. Facility Information (Identify owner, removal contractor, and other operator)			
Owner Name		Contact	
Address			
City	State	Zip	Tel.
Removal Contractor		Contact	
Address			
City	State	Zip	Tel.
Other Operator		Contact	
Address			
City	State	Zip	Tel.
III. Type of Operation (D-Demo <input type="checkbox"/> O-Ordered Demo <input type="checkbox"/> R-Renovation <input type="checkbox"/> E-Emergency Renovation <input type="checkbox"/>)			
IV. Is Asbestos Present? Yes <input type="checkbox"/> No <input type="checkbox"/>			
V. Facility Description (Include building name, number, and floor or room number)			
Building Name			
Address			
City	State	Zip	
Building Size	No. of Floors	Age in Years	
Present Date (MM/DD/YY)		Prior Date (MM/DD/YY)	
VI. Procedure (Include, if appropriate, analytical method used to detect presence of asbestos materials)			
VII. Approximate Amount of Asbestos, Including:		RACM to be Removed	Non-Friable Asbestos Not to be Removed
A. Regulated ACM to be removed			
B. Category I ACM not removed			
C. Category II ACM not removed			
Pipes (linear feet)			
Surface Area (square feet)			
Volume (cubic feet)			
VIII. Scheduled Dates for Asbestos Removal (MM/DD/YY) Start: Complete:			
IX. Scheduled Dates for Demo/Renovation (MM/DD/YY) Start: Complete:			
X. Description of Planned Demolition Renovation Work and Method(s) to be Used			

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XI. Description of Work Practices and Engineering Controls to be Used to Prevent Emissions of Asbestos at the Demolition and Renovation Site			
XII. Waste Transporter 1			
Name		Contact	
Address			
City	State	Zip	Tel.
Waste Transporter 2			
Name		Contact:	
Address			
City	State	Zip	Tel.
XIII. Waste Disposal Site			
Name		Contact	
Address			
City	State	Zip	Tel.
XIV. If Demolition Ordered by a Government Agency, Identify the Agency Below			
Name		Title	
Authority			
Date of Order (MM/DD/YY)		Date Ordered to Begin (MM/DD/YY)	
XV. For Emergency Renovations			
Date and Hour of Emergency (MM/DD/YY)			
Description of the sudden, unexpected event:			
Explanation of how the event caused unsafe conditions or would cause equipment damage or an unreasonable financial burden:			
XVI. Description of Procedures to be Followed if Unexpected Asbestos is Found or if Previously Non-Friable Asbestos Material Becomes Friable (Crumbled, Pulverized, or Reduced to Powder)			
XVII. I certify that an individual trained in the provisions of this regulation (40 CFR, Part 61, Subpart M) will be on-site during the demolition or renovation and that evidence that the required training has been completed by this person will be available for inspection during normal business hours. (required one year after promulgation)			
_____		_____	
(Signature of Owner/Operator)		(Date)	
XVII. I certify that the above information is correct.			
_____		_____	
(Signature of Owner/Operator)		(Date)	

Appendix II

Asbestos Notification to Employees and Other Building Occupants

This example of the Asbestos Notification to Employees and Other Building Occupants is for reference only. For a downloadable version of the form, go to the HSSE website.

Asbestos Notification to Employees and Other Building Occupants

In compliance with federal and state laws, BP USPL hereby notifies and informs you that asbestos-containing material (ACM) or presumed ACM (PACM) is present at this location. Precautions are taken to contain potential airborne asbestos.

Asbestos presents a health hazard only when fibers become airborne and are inhaled. The mere presence of ACM does not pose a health hazard. When asbestos-containing materials remain intact and are maintained in good condition, the potential hazard diminishes. Asbestos-containing materials may be kept in place for the life of the facility or until renovation could disturb them.

To avoid exposure, it is important to:

- Know what types of materials may contain asbestos.
- Avoid damage to asbestos-containing material and areas where damage to these materials has occurred.
- Follow precautions and handling procedures contained in the USPL Safety Manual
- Contact the site management or HSE Coordinator when damaged areas are found so the problem can be remedied immediately.

Common applications of asbestos in BP facilities include, but are not limited to, spray-applied fireproofing; acoustic plaster soundproofing; thermal insulation such as those found on pipes, boilers, and ducts; ceiling tiles, floor tile, and mastics; cement asbestos (Transite); and roofing materials. Specific materials discovered at USPL locations may include the above items plus the following:

- Underground pipe wrap on pipelines
- Tank and pump seals, gaskets, or the equivalent
- Transite-sided buildings
- Electrical wire wrap
- _____

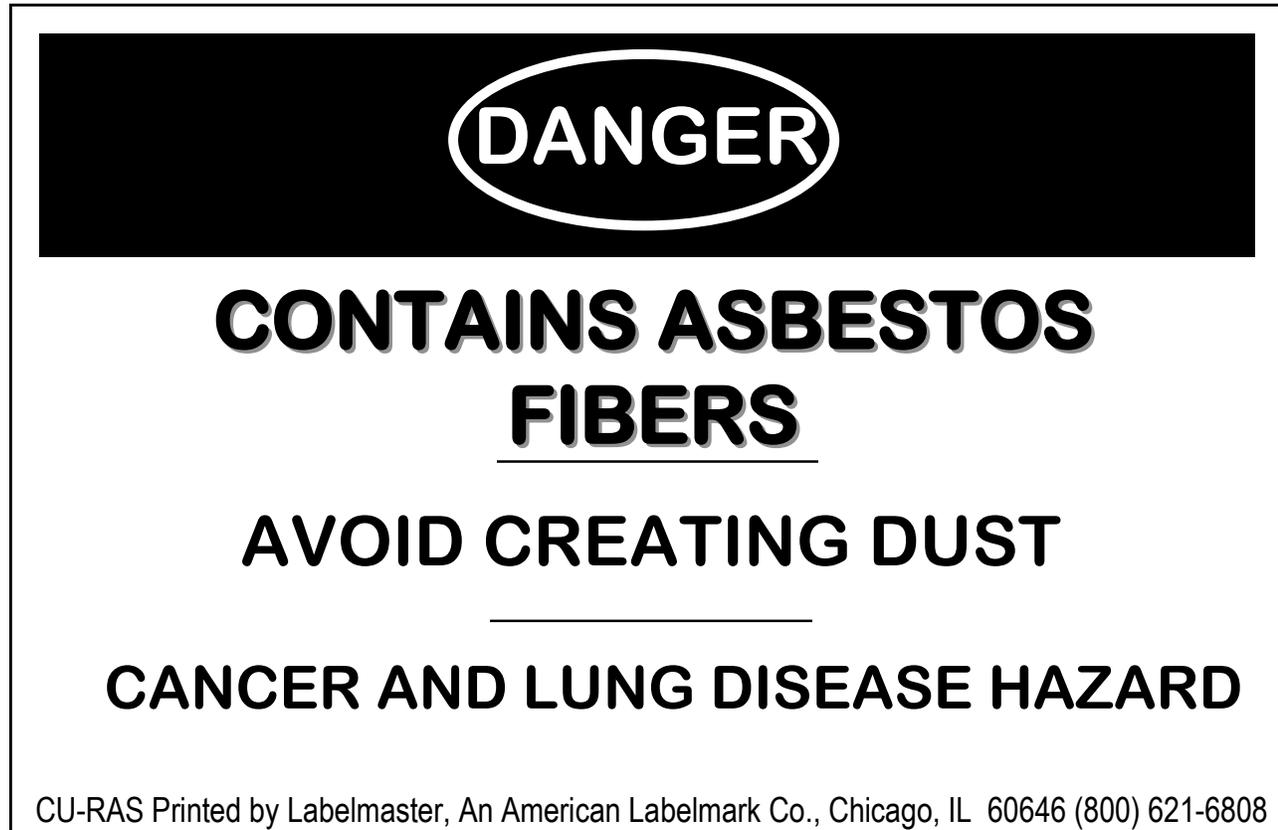
Most buildings and facilities built before 1981 contain some of these materials, but it is important to realize that not all of them contain asbestos. To prevent potential release of asbestos fibers, an activity that may disturb these materials must be approved by facility management or by _____.
Please report any evidence of disturbance damage or change in condition of ACM to:

Facility/Location Management or HSE Coordinator:

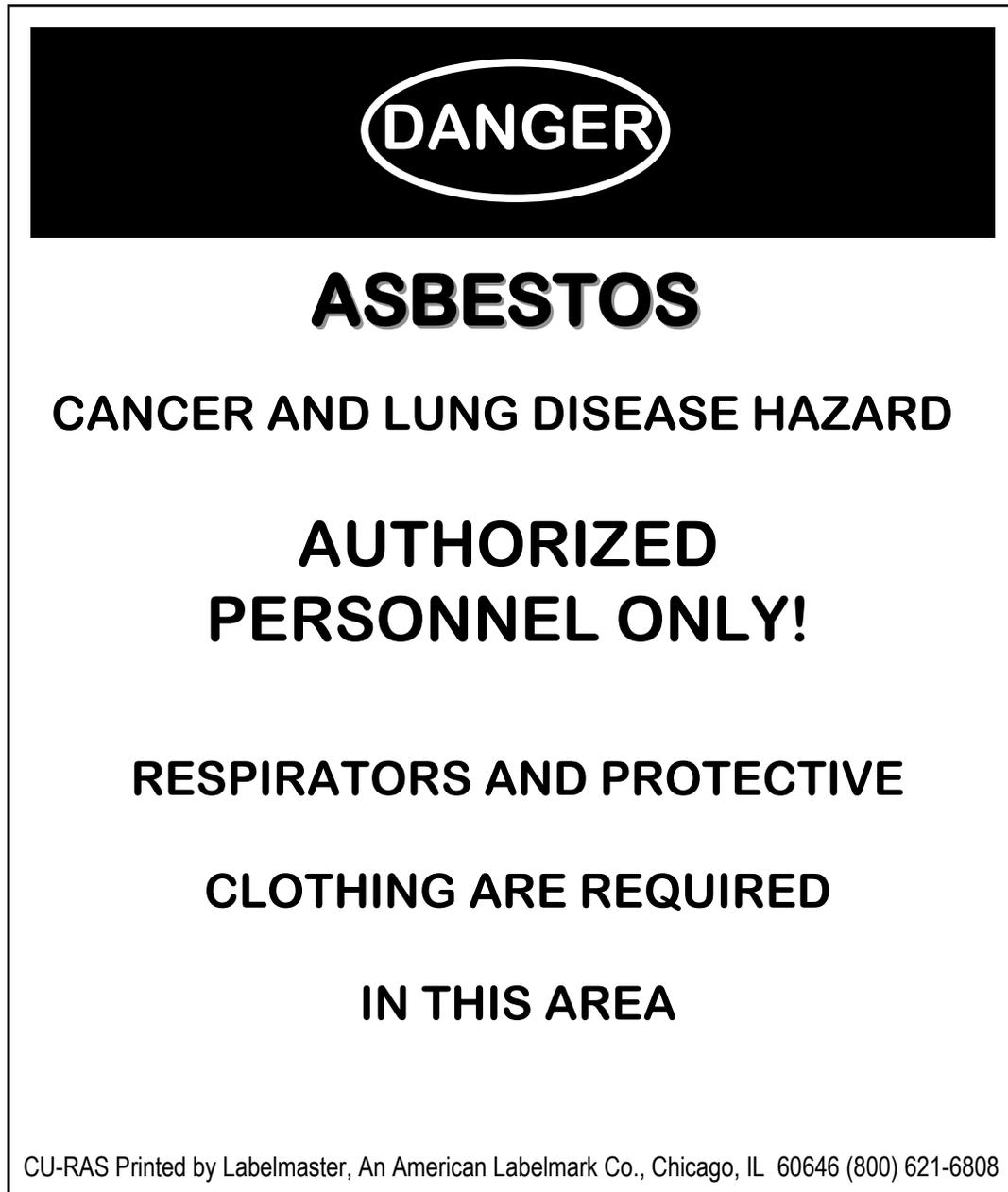
If you have any questions, contact Facility/Location Management or the HSE Coordinator.

Appendix III Warning Labels and Signs

Sample Label for Product Containers



Sample Warning Sign for Regulated Areas



DOT Hazard Labels for Asbestos Waste



Class 9 label



Orange Panel

Appendix IV Waste Shipment Record

This example of the Waste Shipment Record is for reference only. For a downloadable version of the form, go to the HSSE website. The electronic version may be filled out online or printed and completed as hard copy.

Waste Shipment Record		
<i>Please type or print.</i>		
1. Worksite name and mailing address	Owner's name	Owner's phone no.
2. Operator's name and address		Operator's phone no.
3. Waste disposal site (WDS) name, mailing address, and physical location		WDS phone no.
4. Name and address of responsible agency		
5. Description of waste materials	6. Containers No.: Type:	7. Total quantity (yd ³)
8. Special handling instructions and additional information		
9. OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and area classified, packed, marked, and labeled and are in all respects in proper condition for transport by highway according to applicable international and government regulations.		
Printed/typed name and title	Signature	Month Day Year
10. Transporter 1 (Acknowledgment of receipt of materials)		
Printed/typed name and title	Signature	Month Day Year
Address and telephone number		
11. Transporter 2 (Acknowledgment of receipt of materials)		
Printed/typed name and title	Signature	Month Day Year
Address	Telephone number	
12. Discrepancy indication space		
13. WDS owner or operator		
Certification or receipt of asbestos materials covered by this manifest except as noted in item 12.		
Printed/typed name and title	Signature	Month Day Year

Revised 08/26/2008

Appendix V

Summary of Typical Asbestos Requirements

ACM/PACM Type	Classification	Training	Govt. Notifications	Worker/Contractor Notifications	Disposal
Removal of thermal system insulation (TSI)	Class I	Required—equivalent to EPA Model Accreditation Plan (40 hrs.)	Required See Section 8	Yes	See Section 11
Removal of surfacing material (troweled on, sprayed, or similarly applied)	Class I	Required—equivalent to EPA Model Accreditation Plan (40 hrs.)	Required See Section 8	Yes	See Section 11
Removal of asbestos-containing floor tile	Class II	Required (8 hrs.) See Section 12	Not required	Yes	See Section 11
Removal of Transite	Class II	Required (8 hrs.) See Section 12	Not required	Yes	See Section 11
Removal of electrical seal-off packing (Chico)	Class II	Required See Section 12	Not required	Yes	See Section 11
Removal of asbestos-containing gaskets (non-friable)	Class II	Required See Section 12	Not required	Yes	See Section 11
Removal of pipe wrap—intact	Non-friable, non-regulated ACM	Required See Section 12	Not required	Yes	See Section 11
Removal of pipe wrap—non-intact	Class II	Required See Section 12	Not required	Yes	See Section 11
Removal of tank roof seal system (non-friable)	Class III	Required (16 hrs.) See Section 12	Not required	Yes	See Section 11
Maintenance/repair activities on asbestos-containing material	Class III	Required (16 hrs.) See Section 12	Not required	Yes	See Section 11
Cleaning, buffing, and waxing of asbestos-containing floor tile	Class IV	Required (2 hrs.) See Section 12	Not required	Yes	N/a

Revision Date: November 13, 2019

Effective Date: November 13, 2019

Next Review Date: November 14, 2024

Paper copies are uncontrolled and valid only at the time of printing. The controlled version of this document can be found in DRM in the HSSE Policies folder.

Appendix VI

Exposure Assessment Guidelines and Form

This example of the Exposure Assessment Guidelines and Form is for reference only. For a downloadable version of the document, go to the HSSE website.

Exposure Assessment Guidelines and Form

General Guidelines

1. For Class I, II, and III asbestos activities,
 - a. an initial exposure assessment must be conducted for each project (generic assessments for types of activities are not allowed); *or*
 - b. the project must be conducted in a full negative-pressure containment with Type C, pressure-demand airline respirators.
2. Exposure assessments must be completed before the work begins—in time to assure that all control systems and protective measures are available, installed, and working properly.
3. Exposure assessments must be performed by a Competent Person, whose duties and requirements have expanded under the new rules (29 CFR 1926.1101, paragraph [o]). The Competent Person must
 - a. have accredited contractor/supervisor training (40 hours); and
 - b. must conduct regular inspections, at the following intervals, while the work is underway:
 - Class I: at least once per shift
 - Class II and III: sufficient to assess changes in conditions
 - All: when requested by a worker
4. Although Class IV is not specifically mentioned in the rules, Class IV work must be regularly inspected by the Competent Person and must be periodically monitored. It is advisable to conduct exposure assessments regularly (i.e., annually) for each type of Class IV work to demonstrate and document that the air monitoring data and other records are being evaluated by the Competent Person.

Guidelines for Initial Exposure Assessment Form

1. For comparison purposes, select reference projects with characteristics that are similar to or worse than the work being assessed.
2. Worker training and experience should be for similar work under similar conditions. It may be possible to assume similarity of training if both sets of workers attended equivalent, accredited courses equivalent to the EPA Model Accreditation Plan.
3. Air monitoring data should be for similar work, conditions, and practices. (For example, preparation data should not be compared to removal data.)
4. Describe other personal protective equipment (PPE) required, such as suits, gloves, hard hats, fall protection, burn protection, or for other hazards, such as chemical, heat, cold, IDLH atmospheres, etc.
5. Describe practices and procedures to be used, such as negative-pressure containment, glove bags, decontamination units, wet removal, or special procedures needed.
6. After determining the exposure characteristics, please indicate whether the report constitutes a Negative Exposure Assessment by crossing out the appropriate part of the "IS / IS NOT" line in the box at the top of the form.
7. Keep a copy of the form in the project file and post a copy at the site of the asbestos abatement project (at the worksite, toolbox, or decontamination facility (if one is required/used).

Initial Exposure Assessment for Asbestos-Related Work

This IS / IS NOT a Negative Exposure Assessment

Project No. _____ Project Name: _____
 Facility _____ Location/Area _____
 Project Start Date _____ Finish Date _____ Assessment Date _____
 Competent Person _____ Phone _____
 Competent Person's training _____ Is it current? _____ Date _____
 Description of work _____

Description of materials _____

Location: Indoor Outdoor Scaffold/Fall Protection Needed?
 Confined Space (include CS program)

Other Hazards (Please list or attach) _____

Condition of materials: Intact Damaged Failed _____ % asbestos content
 Class: I II III IV

Reference Projects

Job No.	Location	Conditions	Personal Monitoring Data		
			High	Low	Average
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Explain why these jobs are similar or relevant to this assessment: _____

Work force: In-House Contract
 similar training _____ similar/greater experience

<u>Expected Exposure Conditions</u>	<u>Anticipated Fiber Level</u>	<u>Recommended Respirator</u>	<u>Other Personal Protective Equipment</u>
Prep/Setup	_____ f/cc	_____	_____
Abatement	_____ f/cc	_____	_____
Bag-out	_____ f/cc	_____	_____
Cleanup	_____ f/cc	_____	_____
Other	_____ f/cc	_____	_____

Recommended controls and procedures: _____

Follow-up (evaluation, comparison of actual vs. anticipated exposure): _____

Actual Completion Date _____ Competent Person Signature _____