## VII. ASBESTOS SELF-AUDIT CHECKLIST

This section contains a checklist and associated background information related to asbestos requirements for construction activities. Activities that could result in the release of asbestos from asbestos-containing materials (ACM) are covered by the Asbestos National Emissions Standards for Hazardous Air Pollutants (NESHAP), promulgated under the Clean Air Act.

Before beginning any demolition or renovation activities on existing buildings, the site should evaluate the potential for releasing asbestos. This should include an inspection of the affected facility to determine the presence and quantities of Category I and Category II ACM as well as friable asbestos material. Owners, developers, architects, contractors, and subcontractors can use the checklist to identify who will be responsible for addressing each requirement, and to conduct a self-audit. The checklist can also be used by compliance inspectors to conduct an inspection of a construction site. Check with the state and local authorities to confirm the appropriate Administrator for the site asbestos activities.

More information on asbestos waste requirements can be found in Section X in Part I of this guide and in the Background section following the checklist. Attachment A of this checklist provides a list of common asbestos-containing materials.

# CHECKLIST FOR ASBESTOS REQUIREMENTS FOR CONSTRUCTION PROJECTS

## BACKGROUND INFORMATION

**Name of Auditor:** _____
**Date of Audit:** _____
**Name of Project/Site:** _____

A "notes" area is provided at the end of each section of this checklist. For every "No" answer, enter a description of the missing information and the action required to bring the site into compliance in the "notes" area.

## ASBESTOS NESHAP

| Yes | No | |
|---|---|---|
| | | **Does the Asbestos NESHAP Apply to Site Activity?** *The Asbestos NESHAP will apply to the site activity if any of the following questions are answered "Yes." Only the notification requirements apply if the demolition activities contain Regulated Asbestos-Containing Material (RACM) below the following thresholds.* |
| ❑ | ❑ | 1. Do the site renovations or demolitions include at least 80 linear meters (260 linear feet) of RACM on pipes? |
| ❑ | ❑ | 2. Do the site renovations or demolitions include 15 square meters (160 square feet) of RACM on other facility components? |
| ❑ | ❑ | 3. Do the site renovations or demolitions include at least one cubic meter (35 cubic feet) of facility components where the amount of RACM previously removed from pipes and other facility components could not be measured before stripping? |
| ❑ | ❑ | 4. Do the site renovations or demolitions occur at residential structures with five or more dwellings (i.e., apartments or single family homes)? |
| | | **Will Category I ACM Become RACM and Require Removal?** *Category I ACM will become RACM if the answer to any of the following questions is "Yes."* |
| ❑ | ❑ | 5. Is Category I material friable or in poor condition? |
| ❑ | ❑ | 6. Has the Category I material been or will it be subjected to sanding, cutting, grinding, or abrading? |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | 7. Has a floor tile removal process, such as using a shot-blaster, resulted in extensive damage to the tiles? |
| ❑ | ❑ | 8. Is debris from Category I roofing material created by sawing activities? |
| ❑ | ❑ | 9. Will a building containing asbestos-cement products be demolished using cranes, hydraulic excavaters, or implosion/explosion techniques? |
| ❑ | ❑ | 10. Will jackhammers or other mechanical devices be used to break up asbestos-containing concrete or other materials coated with Category I non-friable ACM? |
| ❑ | ❑ | 11. Will bulldozers, tree chippers, or other equipment be used to reduce the volume of Category I materials? |

**Will Category II ACM Become RACM and Require Removal?**

*Category II ACM will become RACM if the answer to any of the following questions is "Yes."*

| | | |
|---|---|---|
| ❑ | ❑ | 12. Has Category II material been or will it be subjected to sanding, cutting, grinding, or abrading? |
| ❑ | ❑ | 13. Will demolition activities be conducted using heavy equipment such as bulldozers and hydraulic excavaters? |
| ❑ | ❑ | 14. Will equipment such as wrecking balls or buckets be used in demolishing asbestos-cement? |
| ❑ | ❑ | 15. Will the building be demolished using explosion/implosion? |

**Notification**

*The following notification requirements apply if the renovation/demolition activities have RACM below the thresholds listed above.*

| | | |
|---|---|---|
| ❑ | ❑ | 16. Did the site provide the Administrator with a complete written notice of intention to demolish or renovate?<br><br>The notification must be postmarked no later than 10 working days before any stripping/removal activity begins and must contain the following: |
| ❑ | ❑ | Indication if this is the original or a revised notification. |
| ❑ | ❑ | Name, address, and telephone number of both the facility owner and operator and the asbestos removal contractor owner or operator. |
| ❑ | ❑ | Type of operation: demolition or renovation. |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | Description of the facility or affected part of the facility including the size (square feet and number of floors), age, and present and prior use of the facility. |
| ❑ | ❑ | The procedure, including analytical methods, used to detect the presence of RACM and Category I and Category II non-friable ACM. |
| ❑ | ❑ | The approximate amount of RACM to be removed from the facility in terms of length of pipe in linear meters (linear feet), surface area in square meters (square feet) on other facility components, or volume in cubic meters (cubic feet) if off the facility components. |
| ❑ | ❑ | Approximate amount of Category I and Category II non-friable ACM in the affected part of the facility that will not be removed before demolition. |
| ❑ | ❑ | Location and street address (including building number or name and floor or room number, if appropriate), city, county, and state, of the facility being demolished or renovated. |
| ❑ | ❑ | Scheduled start and completion dates of asbestos removal work for the demolition or renovation. |
| ❑ | ❑ | Scheduled start and completion dates of demolition or renovation. |
| ❑ | ❑ | Description of work practices and engineering controls to be used to comply with the requirements of this subpart, including asbestos removal and waste-handling emission control procedures. |
| ❑ | ❑ | The name and location of the waste disposal site where the asbestos-containing waste material will be deposited. |
| ❑ | ❑ | Certification that at least one person trained as required by the Asbestos NESHAP will supervise the stripping and removal described by the notification. |
| ❑ | ❑ | If the building is being demolished because it has been declared unsound, the name, title, and authority of the state or local government representative who has ordered the demolition, the date that the order was issued, the date on which the demolition was ordered to begin, and a copy of the order shall be attached to the notification. |
| ❑ | ❑ | For emergency renovations, the date and hour that the emergency occurred; a description of the sudden, unexpected event; and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden. |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | Description of procedures to be followed in the event that unexpected RACM is found or Category II non-friable ACM becomes crumbled, pulverized, or reduced to powder. |
| ❑ | ❑ | The name, address, and telephone number of the waste transporter. |
| ❑ | ❑ | 17. If the amount of asbestos in the renovation/demolition changed by at least 20 percent, did the site update the notice? |
| ❑ | ❑ | 18. If the actual start date is after the start date in the original notification, did the site provide the Administrator with a written notification with the new start date? |
| ❑ | ❑ | 19. If the actual start date is before the start date in the original notification, did the site provide the Administrator with a written notification with the new start date and notify by telephone as soon as possible before the original start date? |

**NOTES / ACTIONS NEEDED TO BRING SITE INTO COMPLIANCE:** _____

## ASBESTOS EMISSION CONTROL

*If the answer is "Yes" to the following applicable questions below, the site is complying with the procedures for asbestos emission control. No visible emissions are allowed under any circumstances.*

| Yes | No | |
|---|---|---|
| ❑ | ❑ | 20. Has all RACM from the facility being demolished or renovated been removed before any activity begins that would break up, dislodge, or similarly disturb the material or preclude access to the material for subsequent removal? OR<br><br>If the building is being demolished because it has been declared structurally unsound and in danger of imminent collapse or RACM is discovered after demolition, is the portion of the facility containing RACM kept adequately wet? |
| ❑ | ❑ | 21. Is at least one on-site representative, such as a foreman or management-level person or other authorized representative, trained in the provisions of the Asbestos NESHAP and the means of complying with them present during the demolition or renovation activities? |
| ❑ | ❑ | 22. If the facility is being demolished by intentional burning, has all RACM including all Category I and Category II non-friable ACM been removed? |

*When a facility component that contains, is covered with, or is coated with RACM is being taken out of the facility as a unit or in sections:*

| | | |
|---|---|---|
| ❑ | ❑ | 23. Is the RACM that is exposed during cutting or disjoining operations adequately wet? |
| ❑ | ❑ | 24. Does the site carefully lower each unit or section to the floor and to ground level to avoid damaging or disturbing the RACM? |

*When RACM is stripped from a facility component but it remains temporarily in place in the facility:*

| | | |
|---|---|---|
| ❑ | ❑ | 25. Does the site adequately wet the RACM during the stripping operation? **OR** |
| | | 26. If the site does not wet the RACM: |
| ❑ | ❑ | Does the site obtain prior written approval from the Administrator? OR |
| ❑ | ❑ | Does the site use a local exhaust ventilation and collection system to capture the particulate asbestos material produced by the stripping? OR |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | Does the site use a glove-bag system or use leak-tight wrapping to contain the particulate asbestos material? OR |
| ❑ | ❑ | Will the site use an alternate control method (besides a local exhaust ventilation and collection or a glove-bag system) and obtain written approval from the Administrator? |

*After a facility component covered with, coated with, or containing RACM has been taken out of the facility as a unit or in sections, it shall be stripped or contained in leak-tight wrapping.*

| | | |
|---|---|---|
| ❑ | ❑ | 27. If the site does not wet the RACM, does it use a local exhaust ventilation and collection system to capture the particulate asbestos material produced by the stripping? |

*For large facility components such as reactor vessels or large tanks, the RACM is not required to be stripped if the site meets the following requirements:*

| | | |
|---|---|---|
| ❑ | ❑ | 28. Is the component removed, transported, stored, disposed of, or reused without disturbing or damaging the RACM? |
| ❑ | ❑ | 29. Is the component encased in a leak-tight wrapping and properly labeled? |

*For all RACM, including material that has been removed or stripped:*

| | | |
|---|---|---|
| ❑ | ❑ | 30. Is the material adequately wet and does it remain wet until collected and contained or treated in preparation for disposal? |
| ❑ | ❑ | 31. Does the site carefully lower the material to the ground and floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the material? |
| ❑ | ❑ | 32. If the material has been removed or stripped more than 50 feet above ground level and was not removed as units or in sections, does the site transport the material to the ground via leak-tight chutes or containers? |

*When the temperature at the point of wetting is below 0°C (32°F):*

| | | |
|---|---|---|
| ❑ | ❑ | 33. Does the site remove facility components containing, coated with, or covered with RACM as units or in sections to the maximum extent possible? |
| ❑ | ❑ | 34. During periods when wetting operations are suspended due to freezing temperatures, does the site record the temperature in the area containing the facility components at the beginning, middle, and end of each workday? |

**NOTES / ACTIONS NEEDED TO BRING SITE INTO COMPLIANCE:** _____

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_____

## ASBESTOS WASTE DISPOSAL

*Waste disposal requirements of the asbestos NESHAP do not apply to Category I and Category II non-friable ACM waste that did not become crumbled, pulverized, or reduced to powder. If the answer to the following applicable questions below is "Yes," the site is complying with the procedures for asbestos waste disposal.*

| Yes | No | |
|---|---|---|
| ❑ | ❑ | 35. Did the site properly mark vehicles used to transport asbestos-containing waste material so that the signs are visible? |

*To ensure no discharge of visible emissions to the outside air during the collection, processing (including incineration), packaging, or transporting of any asbestos-containing waste material generated by the source, the site must use all applicable emission control and waste treatment methods.*

| | | |
|---|---|---|
| ❑ | ❑ | 36. Does the site adequately wet asbestos-containing waste material? |
| ❑ | ❑ | 37. Does the site seal all asbestos-containing waste material in leak-tight containers while wet or put materials into leak-tight wrapping? |
| ❑ | ❑ | 38. Does the site properly label the containers or wrapped materials? |
| ❑ | ❑ | 39. Does the label contain the name of the waste generator and the location at which the waste was generated? |
| ❑ | ❑ | 40. Does the site process asbestos-containing waste material into non-friable forms? |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | 41. If the building is being demolished because it has been declared unsound:<br>Does the site adequately wet asbestos-containing waste material at all times after demolition and keep wet during handling and loading for transport to a disposal site? OR<br>Does the site use an alternative emission control and waste treatment method that has received prior approval by the Administrator? |

*All asbestos-containing waste material shall be disposed as soon as is practical by the waste generator. This does not apply to Category I and Category II non-friable ACM that is not RACM.*

| | | |
|---|---|---|
| ❑ | ❑ | 42. Is the material sent to an active waste disposal site authorized to receive asbestos-containing material? |
| ❑ | ❑ | 43. Is the material sent to an EPA-approved site that converts asbestos-containing waste material into asbestos-free material? |

*For all asbestos-containing waste material transported off the facility site:*

| | | |
|---|---|---|
| | | 44. Does the site maintain waste shipment records using the required format? |
| ❑ | ❑ | Name, address, and telephone number of the waste generator. |
| ❑ | ❑ | Name and address of the local, state, or EPA Regional office responsible for administering the asbestos NESHAP program. |
| ❑ | ❑ | Approximate quantity of waste in cubic meters. |
| ❑ | ❑ | Name and telephone number of the disposal site operator. |
| ❑ | ❑ | Name and physical site location of the disposal site. |
| ❑ | ❑ | Date the shipment was transported. |
| ❑ | ❑ | Name, address, and telephone number of the transporter. |
| ❑ | ❑ | Certification that the contents of this consignment are accurately described by proper shipping name and are in proper condition for transport by highway. |

| Yes | No | |
|---|---|---|
| ❑ | ❑ | 45. Did the site provide a copy of the waste shipment record to the disposal site owners or operators as the asbestos-containing waste material was delivered to the disposal site? |
| ❑ | ❑ | 46. Has the site retained a copy of all waste shipment records for at least two years? |
| ❑ | ❑ | 47. If the site did not receive a copy of the waste shipment record signed by the owner or operator of the designated disposal site within 45 days of the date the waste was accepted by the initial transporter, was the transporter and/or the owner or operator of the designated disposal site contacted to determine the status of the waste shipment? |
| ❑ | ❑ | 48. If a copy of the waste shipment record, signed by the owner or operator of the designated waste disposal site, was not received within 45 days of the date the waste was accepted by the initial transporter, did the site report this in writing to the office responsible for administering the asbestos NESHAP program for waste generators? |

**NOTES / ACTIONS NEEDED TO BRING SITE INTO COMPLIANCE:** _____

## AIR-CLEANING

*If the site chooses to use a local exhaust ventilation and collection system to capture particulate asbestos material emissions, it must be designed and operated in accordance with the requirements of 40 CFR Part 61 Subpart 152. The site is complying with this Subpart if the answer to all of the following applicable questions is "Yes."*

| Yes | No | |
|---|---|---|
| *If the site uses fabric filter devices:* | | |
| ❑ | ❑ | 49. Does the site ensure that the airflow permeability does not exceed 9 $m^3/min/m^2$ (30 $ft^3/min/ft^2$) for woven fabrics or 11 $m^2$ (35 $ft^3/min/ft^2$) for felted fabrics? |
| ❑ | ❑ | 50. Does the site ensure that felted fabric weighs at least 475 grams per square meter (14 ounces per square yard) and is at least 1.6 millimeters (one-sixteenth inch) thick throughout? |
| ❑ | ❑ | 51. Does the site avoid the use of synthetic fabrics that contain fill yarn other than that which is spun? |
| ❑ | ❑ | 52. Does the site properly install, use, operate, and maintain all air-cleaning equipment? |
| *If the site does not use fabric filter devices:* | | |
| ❑ | ❑ | 53. Does the site utilize wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches water gage pressure)? OR |
| ❑ | ❑ | Does the site use a HEPA filter that is certified to be at least 99.97 percent efficient for 0.3 micron particles? OR |
| ❑ | ❑ | Is the site authorized to use alternative filtering equipment? |

**NOTES / ACTIONS NEEDED TO BRING SITE INTO COMPLIANCE:** _____

## BACKGROUND ON ASBESTOS REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

### DEFINITIONS

- **Adequately Wet.** Sufficiently mixed with liquid to prevent the release of particulates. If visible particles or dust is observed coming from asbestos-containing material, then that material has not been adequately wetted.

- **Asbestos.** The name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The NESHAP defines asbestos to be the asbestiform varieties of serpentine (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite.

- **Demolition.** The wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

- **Friable.** Material containing more than 1 percent asbestos that can be reduced to dust by hand pressure.

- **Non-friable.** Material containing more than 1 percent asbestos that is too hard to be reduced to dust by hand. Non-friable asbestos is grouped as Category I or Category II.

  — Category I - Asbestos-containing resilient floor covering, asphalt roofing products, packings, and gaskets. Asbestos-containing mastic is also considered a Category I material (EPA determination - April 9, 1991).

  — Category II - All remaining types of non-friable ACM not included in Category I that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure. Non-friable asbestos-cement products such as transite are an example of Category II material.

- **Owner or Operator of a Demolition or Renovation Activity.** Any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

- **Regulated Asbestos-Containing Material (RACM).** This includes:

  — Friable asbestos material;

  — Category I non-friable ACM that has become friable;

  — Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; and

  — Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

- **Remove.** To take out RACM or facility components that contain or are covered with RACM from any facility.

- **Renovation.** Altering a facility or one or more facility components in any way, including stripping or removing RACM from a facility component. Operations in which load-supporting structural members are wrecked or taken out are considered demolition.

## ASBESTOS NESHAP REQUIREMENTS

RACM must be removed before demolition of a building can begin. Attachment A provides a list of materials that are considered RACM. If demolition will be by intentional burning, then all Category I and Category II non-friable materials as well as RACM must be removed from the building. If suspect ACM becomes exposed during demolition activities and there was no prior knowledge of its existence, compliance with the asbestos NESHAP is still required.

In order to avoid NESHAP requirements before and during demolition activities, some groups have had buildings declared unsafe. The condition of a building should be confirmed independently. Even if a building is declared unsafe, it has no effect on requirements for disposal of RACM after demolition activities.

When preparing for any construction project, the site must determine if it is expected to comply with the asbestos NESHAP. The construction project must comply with the asbestos NESHAP if renovations or demolitions meet the following criteria:

- The renovations or demolitions include at least 80 linear meters (260 linear feet) of RACM on pipes;

- The renovations or demolitions include 15 square meters (160 square feet) of RACM on other facility components; or

- The renovations or demolitions include at least one cubic meter (35 cubic feet) of facility components where the amount of RACM previously removed from pipes and other facility components could not be measured before stripping.

The asbestos NESHAP only applies to renovations or demolitions that occur at residential structures with five or more dwellings (i.e. apartments or single family homes).

If a building is being demolished and the RACM being removed is less than the above-stated threshold, then only the notification requirements of the asbestos NESHAP are required.

If the building to be demolished is structurally unsound and in danger of imminent collapse (such as may occur due to a tornado, hurricane or flood damage, cataclysmic event, or extensive deterioration), the RACM are not required to be removed first. However, notification requirements and emission control requirements still apply to the demolition operation (40 CFR Part 61.145 (a)(3)). A review of the structure and the work plan may be required by the Administrator before this approach may be taken.

The following materials are not exempt from the asbestos NESHAP requirements:

- Category I non-friable ACM that has become friable; and

- Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations.

## Attachment A. Asbestos-Containing Materials

- Cement Pipes
- Cement Wallboard
- Cement Siding
- Asphalt Floor
- Vinyl Floor Tile
- Vinyl Sheet Flooring
- Flooring Backing
- Heating and Electrical Ducts
- Acoustical Plaster
- Electrical Cloth
- Electric Wiring Insulation
- Spray-Applied Insulation
- Blown-in Insulation
- Fireproofing Materials
- Taping Compounds (thermal)
- High Temperature Gaskets
- Laboratory Hoods/Table Tops
- Laboratory Gloves
- Fire Blankets
- Fire Curtains
- Elevator Equipment Panels
- Chalkboards
- Construction Mastics (floor tile, carpet, ceiling tile, etc.)
- Packing Materials (for wall/floor penetrations)
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Tile Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Electrical Panel Partitions
- Decorative Plaster
- Textured Paints/Coatings
- Ceiling Tiles and Lay-in Panels
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds
- Fire Doors