

Environmental Protection Agency

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6. If the Z-statistic is less than or equal to 1.65, the response action is complete. If the Z-statistic is greater than 1.65, reclean the abatement site and collect a new set of samples.

[52 FR 41857, Oct. 30, 1987]

APPENDIX B TO SUBPART E OF PART 763 [RESERVED]

APPENDIX C TO SUBPART E OF PART 763—ASBESTOS MODEL ACCREDITA- TION PLAN

1. Asbestos Model Accreditation Plan for States

The Asbestos Model Accreditation Plan (MAP) for States has eight components:

- (A) Definitions
- (B) Initial Training
- (C) Examinations
- (D) Continuing Education
- (E) Qualifications
- (F) Recordkeeping Requirements for Training Providers
- (G) Deaccreditation
- (H) Reciprocity
- (I) Electronic reporting

A. Definitions

For purposes of Appendix C:

1. "Friable asbestos-containing material (ACM)" means any material containing more than one percent asbestos which has been applied on ceilings, walls, structural members, piping, duct work, or any other part of a building, which when dry, may be crumbled, pulverized, or reduced to powder by hand pressure. The term includes non-friable asbestos-containing material after such previously non-friable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

2. "Friable asbestos-containing building material (ACBM)" means any friable ACM that is in or on interior structural members or other parts of a school or public and commercial building.

3. "Inspection" means an activity undertaken in a school building, or a public and commercial building, to determine the presence or location, or to assess the condition of, friable or non-friable asbestos-containing building material (ACBM) or suspected ACBM, whether by visual or physical examination, or by collecting samples of such material. This term includes reinspections of friable and non-friable known or assumed ACBM which has been previously identified. The term does not include the following:

- a. Periodic surveillance of the type described in 40 CFR 763.92(b) solely for the purpose of recording or reporting a change in the condition of known or assumed ACBM;
- b. Inspections performed by employees or agents of Federal, State, or local government solely for the purpose of determining

compliance with applicable statutes or regulations; or

c. visual inspections of the type described in 40 CFR 763.90(i) solely for the purpose of determining completion of response actions.

4. "Major fiber release episode" means any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of more than 3 square or linear feet of friable ACBM.

5. "Minor fiber release episode" means any uncontrolled or unintentional disturbance of ACBM, resulting in a visible emission, which involves the falling or dislodging of 3 square or linear feet or less of friable ACBM.

6. "Public and commercial building" means the interior space of any building which is not a school building, except that the term does not include any residential apartment building of fewer than 10 units or detached single-family homes. The term includes, but is not limited to: industrial and office buildings, residential apartment buildings and condominiums of 10 or more dwelling units, government-owned buildings, colleges, museums, airports, hospitals, churches, preschools, stores, warehouses and factories. Interior space includes exterior hallways connecting buildings, porticos, and mechanical systems used to condition interior space.

7. "Response action" means a method, including removal, encapsulation, enclosure, repair, and operation and maintenance, that protects human health and the environment from friable ACBM.

8. "Small-scale, short-duration activities (SSSD)" are tasks such as, but not limited to:

- a. Removal of asbestos-containing insulation on pipes.
- b. Removal of small quantities of asbestos-containing insulation on beams or above ceilings.
- c. Replacement of an asbestos-containing gasket on a valve.
- d. Installation or removal of a small section of drywall.
- e. Installation of electrical conduits through or proximate to asbestos-containing materials.

SSSD can be further defined by the following considerations:

- f. Removal of small quantities of ACM only if required in the performance of another maintenance activity not intended as asbestos abatement.
- g. Removal of asbestos-containing thermal system insulation not to exceed amounts greater than those which can be contained in a single glove bag.
- h. Minor repairs to damaged thermal system insulation which do not require removal.
- i. Repairs to a piece of asbestos-containing wallboard.

j. Repairs, involving encapsulation, enclosure, or removal, to small amounts of friable ACM only if required in the performance of emergency or routine maintenance activity and not intended solely as asbestos abatement. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

B. Initial Training

Training requirements for purposes of accreditation are specified both in terms of required subjects of instruction and in terms of length of training. Each initial training course has a prescribed curriculum and number of days of training. One day of training equals 8 hours, including breaks and lunch. Course instruction must be provided by EPA or State-approved instructors. EPA or State instructor approval shall be based upon a review of the instructor's academic credentials and/or field experience in asbestos abatement.

Beyond the initial training requirements, individual States may wish to consider requiring additional days of training for purposes of supplementing hands-on activities or for reviewing relevant state regulations. States also may wish to consider the relative merits of a worker apprenticeship program. Further, they might consider more stringent minimum qualification standards for the approval of training instructors. EPA recommends that the enrollment in any given course be limited to 25 students so that adequate opportunities exist for individual hands-on experience.

States have the option to provide initial training directly or approve other entities to offer training. The following requirements are for the initial training of persons required to have accreditation under TSCA Title II.

Training requirements for each of the five accredited disciplines are outlined below. Persons in each discipline perform a different job function and distinct role. Inspectors identify and assess the condition of ACBM, or suspect ACBM. Management planners use data gathered by inspectors to assess the degree of hazard posed by ACBM in schools to determine the scope and timing of appropriate response actions needed for schools. Project designers determine how asbestos abatement work should be conducted. Lastly, workers and contractor/supervisors carry out and oversee abatement work. In addition, a recommended training curriculum is also presented for a sixth discipline, which is not federally-accredited, that of "Project Monitor." Each accredited discipline and training curriculum is separate and distinct from the others. A person

seeking accreditation in any of the five accredited MAP disciplines cannot attend two or more courses concurrently, but may attend such courses sequentially.

In several instances, initial training courses for a specific discipline (e.g., workers, inspectors) require hands-on training. For asbestos abatement contractor/supervisors and workers, hands-on training should include working with asbestos-substitute materials, fitting and using respirators, use of glovebags, donning protective clothing, and constructing a decontamination unit as well as other abatement work activities.

1. WORKERS

A person must be accredited as a worker to carry out any of the following activities with respect to friable ACBM in a school or public and commercial building: (1) A response action other than a SSSD activity, (2) a maintenance activity that disturbs friable ACBM other than a SSSD activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as asbestos abatement workers shall complete at least a 4-day training course as outlined below. The 4-day worker training course shall include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, course review, and an examination. Hands-on training must permit workers to have actual experience performing tasks associated with asbestos abatement. A person who is otherwise accredited as a contractor/supervisor may perform in the role of a worker without possessing separate accreditation as a worker.

Because of cultural diversity associated with the asbestos workforce, EPA recommends that States adopt specific standards for the approval of foreign language courses for abatement workers. EPA further recommends the use of audio-visual materials to complement lectures, where appropriate.

The training course shall adequately address the following topics:

(a) *Physical characteristics of asbestos.* Identification of asbestos, aerodynamic characteristics, typical uses, and physical appearance, and a summary of abatement control options.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette smoking and asbestos exposure; the latency periods for asbestos-related diseases; a discussion of the relationship of asbestos exposure to asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Employee personal protective equipment.* Classes and characteristics of respirator

types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing; and regulations covering personal protective equipment.

(d) *State-of-the-art work practices.* Proper work practices for asbestos abatement activities, including descriptions of proper construction; maintenance of barriers and decontamination enclosure systems; positioning of warning signs; lock-out of electrical and ventilation systems; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure exhaust ventilation equipment; use of high-efficiency particulate air (HEPA) vacuums; proper clean-up and disposal procedures; work practices for removal, encapsulation, enclosure, and repair of ACM; emergency procedures for sudden releases; potential exposure situations; transport and disposal procedures; and recommended and prohibited work practices.

(e) *Personal hygiene.* Entry and exit procedures for the work area; use of showers; avoidance of eating, drinking, smoking, and chewing (gum or tobacco) in the work area; and potential exposures, such as family exposure.

(f) *Additional safety hazards.* Hazards encountered during abatement activities and how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire and explosion hazards, scaffold and ladder hazards, slips, trips, and falls, and confined spaces.

(g) *Medical monitoring.* OSHA and EPA Worker Protection Rule requirements for physical examinations, including a pulmonary function test, chest X-rays, and a medical history for each employee.

(h) *Air monitoring.* Procedures to determine airborne concentrations of asbestos fibers, focusing on how personal air sampling is performed and the reasons for it.

(i) *Relevant Federal, State, and local regulatory requirements, procedures, and standards.* With particular attention directed at relevant EPA, OSHA, and State regulations concerning asbestos abatement workers.

(j) *Establishment of respiratory protection programs.*

(k) *Course review.* A review of key aspects of the training course.

2. CONTRACTOR/SUPERVISORS

A person must be accredited as a contractor/supervisor to supervise any of the following activities with respect to friable ACBM in a school or public and commercial building: (1) A response action other than a SSSD activity, (2) a maintenance activity that disturbs friable ACBM other than a SSSD activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as asbestos abatement contractor/supervisors shall complete at least a 5-day training course as outlined below. The training course must include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, course review, and a written examination. Hands-on training must permit supervisors to have actual experience performing tasks associated with asbestos abatement.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

Asbestos abatement supervisors include those persons who provide supervision and direction to workers performing response actions. Supervisors may include those individuals with the position title of foreman, working foreman, or leadman pursuant to collective bargaining agreements. At least one supervisor is required to be at the work-site at all times while response actions are being conducted. Asbestos workers must have access to accredited supervisors throughout the duration of the project.

The contractor/supervisor training course shall adequately address the following topics:

(a) *The physical characteristics of asbestos and asbestos-containing materials.* Identification of asbestos, aerodynamic characteristics, typical uses, physical appearance, a review of hazard assessment considerations, and a summary of abatement control options.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; synergism between cigarette smoking and asbestos exposure; and latency period for diseases.

(c) *Employee personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection, donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; and use, storage,

and handling of non-disposable clothing; and regulations covering personal protective equipment.

(d) *State-of-the-art work practices.* Proper work practices for asbestos abatement activities, including descriptions of proper construction and maintenance of barriers and decontamination enclosure systems; positioning of warning signs; lock-out of electrical and ventilation systems; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure exhaust ventilation equipment; use of HEPA vacuums; and proper clean-up and disposal procedures. Work practices for removal, encapsulation, enclosure, and repair of ACM; emergency procedures for unplanned releases; potential exposure situations; transport and disposal procedures; and recommended and prohibited work practices. New abatement-related techniques and methodologies may be discussed.

(e) *Personal hygiene.* Entry and exit procedures for the work area; use of showers; and avoidance of eating, drinking, smoking, and chewing (gum or tobacco) in the work area. Potential exposures, such as family exposure, shall also be included.

(f) *Additional safety hazards.* Hazards encountered during abatement activities and how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire and explosion hazards, scaffold and ladder hazards, slips, trips, and falls, and confined spaces.

(g) *Medical monitoring.* OSHA and EPA Worker Protection Rule requirements for physical examinations, including a pulmonary function test, chest X-rays and a medical history for each employee.

(h) *Air monitoring.* Procedures to determine airborne concentrations of asbestos fibers, including descriptions of aggressive air sampling, sampling equipment and methods, reasons for air monitoring, types of samples and interpretation of results.

EPA recommends that transmission electron microscopy (TEM) be used for analysis of final air clearance samples, and that sample analyses be performed by laboratories accredited by the National Institute of Standards and Technology's (NIST) National Voluntary Laboratory Accreditation Program (NVLAP).

(i) *Relevant Federal, State, and local regulatory requirements, procedures, and standards, including:*

(i) Requirements of TSCA Title II.

(ii) National Emission Standards for Hazardous Air Pollutants (40 CFR part 61), Subparts A (General Provisions) and M (National Emission Standard for Asbestos).

(iii) OSHA standards for permissible exposure to airborne concentrations of asbestos fibers and respiratory protection (29 CFR 1910.134).

(iv) OSHA Asbestos Construction Standard (29 CFR 1926.58). (v) EPA Worker Protection Rule, (40 CFR part 763, Subpart G).

(j) *Respiratory Protection Programs and Medical Monitoring Programs.*

(k) *Insurance and liability issues.* Contractor issues; worker's compensation coverage and exclusions; third-party liabilities and defenses; insurance coverage and exclusions.

(l) *Recordkeeping for asbestos abatement projects.* Records required by Federal, State, and local regulations; records recommended for legal and insurance purposes.

(m) *Supervisory techniques for asbestos abatement activities.* Supervisory practices to enforce and reinforce the required work practices and discourage unsafe work practices.

(n) *Contract specifications.* Discussions of key elements that are included in contract specifications.

(o) *Course review.* A review of key aspects of the training course.

3. INSPECTOR

All persons who inspect for ACBM in schools or public and commercial buildings must be accredited. All persons seeking accreditation as an inspector shall complete at least a 3-day training course as outlined below. The course shall include lectures, demonstrations, 4 hours of hands-on training, individual respirator fit-testing, course review, and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate. Hands-on training should include conducting a simulated building walk-through inspection and respirator fit testing. The inspector training course shall adequately address the following topics:

(a) *Background information on asbestos.* Identification of asbestos, and examples and discussion of the uses and locations of asbestos in buildings; physical appearance of asbestos.

(b) *Potential health effects related to asbestos exposure.* The nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette smoking and asbestos exposure; the latency periods for asbestos-related diseases; a discussion of the relationship of asbestos exposure to asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Functions/qualifications and role of inspectors.* Discussions of prior experience and qualifications for inspectors and management planners; discussions of the functions of an accredited inspector as compared to those of an accredited management planner; discussion of inspection process including inventory of ACM and physical assessment.

(d) *Legal liabilities and defenses.* Responsibilities of the inspector and management

planner; a discussion of comprehensive general liability policies, claims-made, and occurrence policies, environmental and pollution liability policy clauses; state liability insurance requirements; bonding and the relationship of insurance availability to bond availability.

(e) *Understanding building systems.* The interrelationship between building systems, including: an overview of common building physical plan layout; heat, ventilation, and air conditioning (HVAC) system types, physical organization, and where asbestos is found on HVAC components; building mechanical systems, their types and organization, and where to look for asbestos on such systems; inspecting electrical systems, including appropriate safety precautions; reading blueprints and as-built drawings.

(f) *Public/employee/building occupant relations.* Notifying employee organizations about the inspection; signs to warn building occupants; tact in dealing with occupants and the press; scheduling of inspections to minimize disruptions; and education of building occupants about actions being taken.

(g) *Pre-inspection planning and review of previous inspection records.* Scheduling the inspection and obtaining access; building record review; identification of probable homogeneous areas from blueprints or as-built drawings; consultation with maintenance or building personnel; review of previous inspection, sampling, and abatement records of a building; the role of the inspector in exclusions for previously performed inspections.

(h) *Inspecting for friable and non-friable ACM and assessing the condition of friable ACM.* Procedures to follow in conducting visual inspections for friable and non-friable ACM; types of building materials that may contain asbestos; touching materials to determine friability; open return air plenums and their importance in HVAC systems; assessing damage, significant damage, potential damage, and potential significant damage; amount of suspected ACM, both in total quantity and as a percentage of the total area; type of damage; accessibility; material's potential for disturbance; known or suspected causes of damage or significant damage; and deterioration as assessment factors.

(i) *Bulk sampling/documentation of asbestos.* Detailed discussion of the "Simplified Sampling Scheme for Friable Surfacing Materials (EPA 560/5-85-030a October 1985)"; techniques to ensure sampling in a randomly distributed manner for other than friable surfacing materials; sampling of non-friable materials; techniques for bulk sampling; inspector's sampling and repair equipment; patching or repair of damage from sampling; discussion of polarized light microscopy; choosing an accredited laboratory to analyze bulk samples; quality control and quality as-

urance procedures. EPA's recommendation that all bulk samples collected from school or public and commercial buildings be analyzed by a laboratory accredited under the NVLAP administered by NIST.

(j) *Inspector respiratory protection and personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing.

(k) *Recordkeeping and writing the inspection report.* Labeling of samples and keying sample identification to sampling location; recommendations on sample labeling; detailing of ACM inventory; photographs of selected sampling areas and examples of ACM condition; information required for inclusion in the management plan required for school buildings under TSCA Title II, section 203 (i)(1). EPA recommends that States develop and require the use of standardized forms for recording the results of inspections in schools or public or commercial buildings, and that the use of these forms be incorporated into the curriculum of training conducted for accreditation.

(l) *Regulatory review.* The following topics should be covered: National Emission Standards for Hazardous Air Pollutants (NESHAP; 40 CFR part 61, Subparts A and M); EPA Worker Protection Rule (40 CFR part 763, Subpart G); OSHA Asbestos Construction Standard (29 CFR 1926.58); OSHA respirator requirements (29 CFR 1910.134); the Asbestos-Containing Materials in School Rule (40 CFR part 763, Subpart E); applicable State and local regulations, and differences between Federal and State requirements where they apply, and the effects, if any, on public and nonpublic schools or commercial or public buildings.

(m) *Field trip.* This includes a field exercise, including a walk-through inspection; on-site discussion about information gathering and the determination of sampling locations; on-site practice in physical assessment; classroom discussion of field exercise.

(n) *Course review.* A review of key aspects of the training course.

4. MANAGEMENT PLANNER

All persons who prepare management plans for schools must be accredited. All persons seeking accreditation as management planners shall complete a 3-day inspector training course as outlined above and a 2-day

management planner training course. Possession of current and valid inspector accreditation shall be a prerequisite for admission to the management planner training course. The management planner course shall include lectures, demonstrations, course review, and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

TSCA Title II does not require accreditation for persons performing the management planner role in public and commercial buildings. Nevertheless, such persons may find this training and accreditation helpful in preparing them to design or administer asbestos operations and maintenance programs for public and commercial buildings.

The management planner training course shall adequately address the following topics:

(a) *Course overview.* The role and responsibilities of the management planner; operations and maintenance programs; setting work priorities; protection of building occupants.

(b) *Evaluation/interpretation of survey results.* Review of TSCA Title II requirements for inspection and management plans for school buildings as given in section 203(i)(1) of TSCA Title II; interpretation of field data and laboratory results; comparison of field inspector's data sheet with laboratory results and site survey.

(c) *Hazard assessment.* Amplification of the difference between physical assessment and hazard assessment; the role of the management planner in hazard assessment; explanation of significant damage, damage, potential damage, and potential significant damage; use of a description (or decision tree) code for assessment of ACM; assessment of friable ACM; relationship of accessibility, vibration sources, use of adjoining space, and air plenums and other factors to hazard assessment.

(d) *Legal implications.* Liability; insurance issues specific to planners; liabilities associated with interim control measures, in-house maintenance, repair, and removal; use of results from previously performed inspections.

(e) *Evaluation and selection of control options.* Overview of encapsulation, enclosure, interim operations and maintenance, and removal; advantages and disadvantages of each method; response actions described via a decision tree or other appropriate method; work practices for each response action; staging and prioritizing of work in both vacant and occupied buildings; the need for containment barriers and decontamination in response actions.

(f) *Role of other professionals.* Use of industrial hygienists, engineers, and architects in developing technical specifications for response actions; any requirements that may exist for architect sign-off of plans; team ap-

proach to design of high-quality job specifications.

(g) *Developing an operations and maintenance (O&M) plan.* Purpose of the plan; discussion of applicable EPA guidance documents; what actions should be taken by custodial staff; proper cleaning procedures; steam cleaning and HEPA vacuuming; reducing disturbance of ACM; scheduling O&M for off-hours; rescheduling or canceling renovation in areas with ACM; boiler room maintenance; disposal of ACM; in-house procedures for ACM—bridging and penetrating encapsulants; pipe fittings; metal sleeves; polyvinyl chloride (PVC), canvas, and wet wraps; muslin with straps, fiber mesh cloth; mineral wool, and insulating cement; discussion of employee protection programs and staff training; case study in developing an O&M plan (development, implementation process, and problems that have been experienced).

(h) *Regulatory review.* Focusing on the OSHA Asbestos Construction Standard found at 29 CFR 1926.58; the National Emission Standard for Hazardous Air Pollutants (NESHAP) found at 40 CFR part 61, Subparts A (General Provisions) and M (National Emission Standard for Asbestos); EPA Worker Protection Rule found at 40 CFR part 763, Subpart G; TSCA Title II; applicable State regulations.

(i) *Recordkeeping for the management planner.* Use of field inspector's data sheet along with laboratory results; on-going recordkeeping as a means to track asbestos disturbance; procedures for recordkeeping. EPA recommends that States require the use of standardized forms for purposes of management plans and incorporate the use of such forms into the initial training course for management planners.

(j) *Assembling and submitting the management plan.* Plan requirements for schools in TSCA Title II section 203(i)(1); the management plan as a planning tool.

(k) *Financing abatement actions.* Economic analysis and cost estimates; development of cost estimates; present costs of abatement versus future operation and maintenance costs; Asbestos School Hazard Abatement Act grants and loans.

(l) *Course review.* A review of key aspects of the training course.

5. PROJECT DESIGNER

A person must be accredited as a project designer to design any of the following activities with respect to friable ACM in a school or public and commercial building: (1) A response action other than a SSSD maintenance activity, (2) a maintenance activity that disturbs friable ACM other than a SSSD maintenance activity, or (3) a response action for a major fiber release episode. All persons seeking accreditation as a project designer shall complete at least a minimum

3-day training course as outlined below. The project designer course shall include lectures, demonstrations, a field trip, course review and a written examination.

EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

The abatement project designer training course shall adequately address the following topics:

(a) *Background information on asbestos.* Identification of asbestos; examples and discussion of the uses and locations of asbestos in buildings; physical appearance of asbestos.

(b) *Potential health effects related to asbestos exposure.* Nature of asbestos-related diseases; routes of exposure; dose-response relationships and the lack of a safe exposure level; the synergistic effect between cigarette smoking and asbestos exposure; the latency period of asbestos-related diseases; a discussion of the relationship between asbestos exposure and asbestosis, lung cancer, mesothelioma, and cancers of other organs.

(c) *Overview of abatement construction projects.* Abatement as a portion of a renovation project; OSHA requirements for notification of other contractors on a multi-employer site (29 CFR 1926.58).

(d) *Safety system design specifications.* Design, construction, and maintenance of containment barriers and decontamination enclosure systems; positioning of warning signs; electrical and ventilation system lock-out; proper working techniques for minimizing fiber release; entry and exit procedures for the work area; use of wet methods; proper techniques for initial cleaning; use of negative-pressure exhaust ventilation equipment; use of HEPA vacuums; proper clean-up and disposal of asbestos; work practices as they apply to encapsulation, enclosure, and repair; use of glove bags and a demonstration of glove bag use.

(e) *Field trip.* A visit to an abatement site or other suitable building site, including on-site discussions of abatement design and building walk-through inspection. Include discussion of rationale for the concept of functional spaces during the walk-through.

(f) *Employee personal protective equipment.* Classes and characteristics of respirator types; limitations of respirators; proper selection, inspection; donning, use, maintenance, and storage procedures for respirators; methods for field testing of the facepiece-to-face seal (positive and negative-pressure fit checks); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors that alter respiratory fit (e.g., facial hair); the components of a proper respiratory protection program; selection and use of personal protective clothing; use, storage, and handling of non-disposable clothing.

(g) *Additional safety hazards.* Hazards encountered during abatement activities and

how to deal with them, including electrical hazards, heat stress, air contaminants other than asbestos, fire, and explosion hazards.

(h) *Fiber aerodynamics and control.* Aerodynamic characteristics of asbestos fibers; importance of proper containment barriers; settling time for asbestos fibers; wet methods in abatement; aggressive air monitoring following abatement; aggressive air movement and negative-pressure exhaust ventilation as a clean-up method.

(i) *Designing abatement solutions.* Discussions of removal, enclosure, and encapsulation methods; asbestos waste disposal.

(j) *Final clearance process.* Discussion of the need for a written sampling rationale for aggressive final air clearance; requirements of a complete visual inspection; and the relationship of the visual inspection to final air clearance.

EPA recommends the use of TEM for analysis of final air clearance samples. These samples should be analyzed by laboratories accredited under the NIST NVLAP.

(k) *Budgeting/cost estimating.* Development of cost estimates; present costs of abatement versus future operation and maintenance costs; setting priorities for abatement jobs to reduce costs.

(l) *Writing abatement specifications.* Preparation of and need for a written project design; means and methods specifications versus performance specifications; design of abatement in occupied buildings; modification of guide specifications for a particular building; worker and building occupant health/medical considerations; replacement of ACM with non-asbestos substitutes.

(m) *Preparing abatement drawings.* Significance and need for drawings, use of as-built drawings as base drawings; use of inspection photographs and on-site reports; methods of preparing abatement drawings; diagramming containment barriers; relationship of drawings to design specifications; particular problems related to abatement drawings.

(n) *Contract preparation and administration.*

(o) *Legal/liabilities/defenses.* Insurance considerations; bonding; hold-harmless clauses; use of abatement contractor's liability insurance; claims made versus occurrence policies.

(p) *Replacement.* Replacement of asbestos with asbestos-free substitutes.

(q) *Role of other consultants.* Development of technical specification sections by industrial hygienists or engineers; the multi-disciplinary team approach to abatement design.

(r) *Occupied buildings.* Special design procedures required in occupied buildings; education of occupants; extra monitoring recommendations; staging of work to minimize occupant exposure; scheduling of renovation to minimize exposure.

(s) *Relevant Federal, State, and local regulatory requirements, procedures and standards, including, but not limited to:*

- (i) Requirements of TSCA Title II.
- (ii) National Emission Standards for Hazardous Air Pollutants, (40 CFR part 61) subparts A (General Provisions) and M (National Emission Standard for Asbestos).
- (iii) OSHA Respirator Standard found at 29 CFR 1910.134.
- (iv) EPA Worker Protection Rule found at 40 CFR part 763, subpart G.
- (v) OSHA Asbestos Construction Standard found at 29 CFR 1926.58.
- (vi) OSHA Hazard Communication Standard found at 29 CFR 1926.59.
- (t) *Course review.* A review of key aspects of the training course.

6. PROJECT MONITOR

EPA recommends that States adopt training and accreditation requirements for persons seeking to perform work as project monitors. Project monitors observe abatement activities performed by contractors and generally serve as a building owner's representative to ensure that abatement work is completed according to specification and in compliance with all relevant statutes and regulations. They may also perform the vital role of air monitoring for purposes of determining final clearance. EPA recommends that a State seeking to accredit individuals as project monitors consider adopting a minimum 5-day training course covering the topics outlined below. The course outlined below consists of lectures and demonstrations, at least 6 hours of hands-on training, course review, and a written examination. The hands-on training component might be satisfied by having the student simulate participation in or performance of any of the relevant job functions or activities (or by incorporation of the workshop component described in item "n" below of this unit).

EPA recommends that the project monitor training course adequately address the following topics:

- (a) *Roles and responsibilities of the project monitor.* Definition and responsibilities of the project monitor, including regulatory/specification compliance monitoring, air monitoring, conducting visual inspections, and final clearance monitoring.
- (b) *Characteristics of asbestos and asbestos-containing materials.* Typical uses of asbestos; physical appearance of asbestos; review of asbestos abatement and control techniques; presentation of the health effects of asbestos exposure, including routes of exposure, dose-response relationships, and latency periods for asbestos-related diseases.
- (c) *Federal asbestos regulations.* Overview of pertinent EPA regulations, including: NESHAP, 40 CFR part 61, subparts A and M; AHERA, 40 CFR part 763, subpart E; and the

EPA Worker Protection Rule, 40 CFR part 763, subpart G. Overview of pertinent OSHA regulations, including: Construction Industry Standard for Asbestos, 29 CFR 1926.58; Respirator Standard, 29 CFR 1910.134; and the Hazard Communication Standard, 29 CFR 1926.59. Applicable State and local asbestos regulations; regulatory interrelationships.

(d) *Understanding building construction and building systems.* Building construction basics, building physical plan layout; understanding building systems (HVAC, electrical, etc.); layout and organization, where asbestos is likely to be found on building systems; renovations and the effect of asbestos abatement on building systems.

(e) *Asbestos abatement contracts, specifications, and drawings.* Basic provisions of the contract; relationships between principle parties, establishing chain of command; types of specifications, including means and methods, performance, and proprietary and nonproprietary; reading and interpreting records and abatement drawings; discussion of change orders; common enforcement responsibilities and authority of project monitor.

(f) *Response actions and abatement practices.* Pre-work inspections; pre-work considerations, precleaning of the work area, removal of furniture, fixtures, and equipment; shutdown/modification of building systems; construction and maintenance of containment barriers, proper demarcation of work areas; work area entry/exit, hygiene practices; determining the effectiveness of air filtration equipment; techniques for minimizing fiber release, wet methods, continuous cleaning; abatement methods other than removal; abatement area clean-up procedures; waste transport and disposal procedures; contingency planning for emergency response.

(g) *Asbestos abatement equipment.* Typical equipment found on an abatement project; air filtration devices, vacuum systems, negative pressure differential monitoring; HEPA filtration units, theory of filtration, design/construction of HEPA filtration units, qualitative and quantitative performance of HEPA filtration units, sizing the ventilation requirements, location of HEPA filtration units, qualitative and quantitative tests of containment barrier integrity; best available technology.

(h) *Personal protective equipment.* Proper selection of respiratory protection; classes and characteristics of respirator types, limitations of respirators; proper use of other safety equipment, protective clothing selection, use, and proper handling, hard/bump hats, safety shoes; breathing air systems, high pressure v. low pressure, testing for Grade D air, determining proper backup air volumes.

(i) *Air monitoring strategies.* Sampling equipment, sampling pumps (low v. high volume), flow regulating devices (critical and

limiting orifices), use of fibrous aerosol monitors on abatement projects; sampling media, types of filters, types of cassettes, filter orientation, storage and shipment of filters; calibration techniques, primary calibration standards, secondary calibration standards, temperature/pressure effects, frequency of calibration, recordkeeping and field work documentation, calculations; air sample analysis, techniques available and limitations of AHERA on their use, transmission electron microscopy (background to sample preparation and analysis, air sample conditions which prohibit analysis, EPA's recommended technique for analysis of final air clearance samples), phase contrast microscopy (background to sample preparation, and AHERA's limits on the use of phase contrast microscopy), what each technique measures; analytical methodologies, AHERA TEM protocol, NIOSH 7400, OSHA reference method (non clearance), EPA recommendation for clearance (TEM); sampling strategies for clearance monitoring, types of air samples (personal breathing zone v. fixed-station area) sampling location and objectives (pre-abatement, during abatement, and clearance monitoring), number of samples to be collected, minimum and maximum air volumes, clearance monitoring (post-visual-inspection) (number of samples required, selection of sampling locations, period of sampling, aggressive sampling, interpretations of sampling results, calculations), quality assurance; special sampling problems, crawl spaces, acceptable samples for laboratory analysis, sampling in occupied buildings (barrier monitoring).

(j) *Safety and health issues other than asbestos.* Confined-space entry, electrical hazards, fire and explosion concerns, ladders and scaffolding, heat stress, air contaminants other than asbestos, fall hazards, hazardous materials on abatement projects.

(k) *Conducting visual inspections.* Inspections during abatement, visual inspections using the ASTM E1368 document; conducting inspections for completeness of removal; discussion of "how clean is clean?"

(l) *Legal responsibilities and liabilities of project monitors.* Specification enforcement capabilities; regulatory enforcement; licensing; powers delegated to project monitors through contract documents.

(m) *Recordkeeping and report writing.* Developing project logs/daily logs (what should be included, who sees them); final report preparation; recordkeeping under Federal regulations.

(n) *Workshops (6 hours spread over 3 days).* Contracts, specifications, and drawings: This workshop could consist of each participant being issued a set of contracts, specifications, and drawings and then being asked to answer questions and make recommendations to a project architect, engineer or to

the building owner based on given conditions and these documents.

Air monitoring strategies/asbestos abatement equipment: This workshop could consist of simulated abatement sites for which sampling strategies would have to be developed (i.e., occupied buildings, industrial situations). Through demonstrations and exhibition, the project monitor may also be able to gain a better understanding of the function of various pieces of equipment used on abatement projects (air filtration units, water filtration units, negative pressure monitoring devices, sampling pump calibration devices, etc.).

Conducting visual inspections: This workshop could consist, ideally, of an interactive video in which a participant is "taken through" a work area and asked to make notes of what is seen. A series of questions will be asked which are designed to stimulate a person's recall of the area. This workshop could consist of a series of two or three videos with different site conditions and different degrees of cleanliness.

C. Examinations

1. Each State shall administer a closed book examination or designate other entities such as State-approved providers of training courses to administer the closed-book examination to persons seeking accreditation who have completed an initial training course. Demonstration testing may also be included as part of the examination. A person seeking initial accreditation in a specific discipline must pass the examination for that discipline in order to receive accreditation. For example, a person seeking accreditation as an abatement project designer must pass the State's examination for abatement project designer.

States may develop their own examinations, have providers of training courses develop examinations, or use standardized examinations developed for purposes of accreditation under TSCA Title II. In addition, States may supplement standardized examinations with questions about State regulations. States may obtain commercially developed standardized examinations, develop standardized examinations independently, or do so in cooperation with other States, or with commercial or non-profit providers on a regional or national basis. EPA recommends the use of standardized, scientifically-validated testing instruments, which may be beneficial in terms of both promoting competency and in fostering accreditation reciprocity between States.

Each examination shall adequately cover the topics included in the training course for that discipline. Each person who completes a

training course, passes the required examination, and fulfills whatever other requirements the State imposes must receive an accreditation certificate in a specific discipline. Whether a State directly issues accreditation certificates, or authorizes training providers to issue accreditation certificates, each certificate issued to an accredited person must contain the following minimum information:

- a. A unique certificate number
- b. Name of accredited person
- c. Discipline of the training course completed.
- d. Dates of the training course.
- e. Date of the examination.
- f. An expiration date of 1 year after the date upon which the person successfully completed the course and examination.
- g. The name, address, and telephone number of the training provider that issued the certificate.
- h. A statement that the person receiving the certificate has completed the requisite training for asbestos accreditation under TSCA Title II.

States or training providers who reaccredit persons based upon completion of required refresher training must also provide accreditation certificates with all of the above information, except the examination date may be omitted if a State does not require a refresher examination for reaccreditation.

Where a State licenses accredited persons but has authorized training providers to issue accreditation certificates, the State may issue licenses in the form of photo-identification cards. Where this applies, EPA recommends that the State licenses should include all of the same information required for the accreditation certificates. A State may also choose to issue photo-identification cards in addition to the required accreditation certificates.

Accredited persons must have their initial and current accreditation certificates at the location where they are conducting work.

2. The following are the requirements for examination in each discipline:

- a. Worker:
 - i. 50 multiple-choice questions
 - ii. Passing score: 70 percent correct
- b. Contractor/Supervisor:
 - i. 100 multiple-choice questions
 - ii. Passing score: 70 percent correct
- c. Inspector:
 - i. 50 Multiple-choice questions
 - ii. Passing score: 70 percent correct
- d. Management Planner:
 - i. 50 Multiple-choice questions
 - ii. Passing score: 70 percent correct
- e. Project Designer:
 - i. 100 multiple-choice questions
 - ii. Passing score: 70 percent correct

D. Continuing Education

For all disciplines, a State's accreditation program shall include annual refresher training as a requirement for reaccreditation as indicated below:

1. Workers: One full day of refresher training.
2. Contractor/Supervisors: One full day of refresher training.
3. Inspectors: One half-day of refresher training.
4. Management Planners: One half-day of inspector refresher training and one half-day of refresher training for management planners.
5. Project Designers: One full day of refresher training.

The refresher courses shall be specific to each discipline. Refresher courses shall be conducted as separate and distinct courses and not combined with any other training during the period of the refresher course. For each discipline, the refresher course shall review and discuss changes in Federal, State, and local regulations, developments in state-of-the-art procedures, and a review of key aspects of the initial training course as determined by the State. After completing the annual refresher course, persons shall have their accreditation extended for an additional year from the date of the refresher course. A State may consider requiring persons to pass reaccreditation examinations at specific intervals (for example, every 3 years).

EPA recommends that States formally establish a 12-month grace period to enable formerly accredited persons with expired certificates to complete refresher training and have their accreditation status reinstated without having to re-take the initial training course.

E. Qualifications

In addition to requiring training and an examination, a State may require candidates for accreditation to meet other qualification and/or experience standards that the State considers appropriate for some or all disciplines. States may choose to consider requiring qualifications similar to the examples outlined below for inspectors, management planners and project designers. States may modify these examples as appropriate. In addition, States may want to include some requirements based on experience in performing a task directly as a part of a job or in an apprenticeship role. They may also wish to consider additional criteria for the approval of training course instructors beyond those prescribed by EPA.

1. Inspectors: Qualifications - possess a high school diploma. States may want to require an Associate's Degree in specific fields (e.g., environmental or physical sciences).

Environmental Protection Agency

Pt. 763, Subpt. E, App. C

2. Management Planners: Qualifications - Registered architect, engineer, or certified industrial hygienist or related scientific field.

3. Project Designers: Qualifications - registered architect, engineer, or certified industrial hygienist.

4. Asbestos Training Course Instructor: Qualifications - academic credentials and/or field experience in asbestos abatement.

EPA recommends that States prescribe minimum qualification standards for training instructors employed by training providers.

F. Recordkeeping Requirements for Training Providers

All approved providers of accredited asbestos training courses must comply with the following minimum recordkeeping requirements.

1. Training course materials. A training provider must retain copies of all instructional materials used in the delivery of the classroom training such as student manuals, instructor notebooks and handouts.

2. Instructor qualifications. A training provider must retain copies of all instructors' resumes, and the documents approving each instructor issued by either EPA or a State. Instructors must be approved by either EPA or a State before teaching courses for accreditation purposes. A training provider must notify EPA or the State, as appropriate, in advance whenever it changes course instructors. Records must accurately identify the instructors that taught each particular course for each date that a course is offered.

3. Examinations. A training provider must document that each person who receives an accreditation certificate for an initial training course has achieved a passing score on the examination. These records must clearly indicate the date upon which the exam was administered, the training course and discipline for which the exam was given, the name of the person who proctored the exam, a copy of the exam, and the name and test score of each person taking the exam. The topic and dates of the training course must correspond to those listed on that person's accreditation certificate. States may choose to apply these same requirements to examinations for refresher training courses.

4. Accreditation certificates. The training providers or States, whichever issues the accreditation certificate, shall maintain records that document the names of all persons who have been awarded certificates, their certificate numbers, the disciplines for which accreditation was conferred, training and expiration dates, and the training location. The training provider or State shall maintain the records in a manner that allows verification by telephone of the required information.

5. Verification of certificate information. EPA recommends that training providers of refresher training courses confirm that their students possess valid accreditation before granting course admission. EPA further recommends that training providers offering the initial management planner training course verify that students have met the prerequisite of possessing valid inspector accreditation at the time of course admission.

6. Records retention and access. (a) The training provider shall maintain all required records for a minimum of 3 years. The training provider, however, may find it advantageous to retain these records for a longer period of time.

(b) The training provider must allow reasonable access to all of the records required by the MAP, and to any other records which may be required by States for the approval of asbestos training providers or the accreditation of asbestos training courses, to both EPA and to State Agencies, on request. EPA encourages training providers to make this information equally accessible to the general public.

(c) If a training provider ceases to conduct training, the training provider shall notify the approving government body (EPA or the State) and give it the opportunity to take possession of that providers asbestos training records.

G. Deaccreditation

1. States must establish criteria and procedures for deaccrediting persons accredited as workers, contractor/supervisors, inspectors, management planners, and project designers. States must follow their own administrative procedures in pursuing deaccreditation actions. At a minimum, the criteria shall include:

(a) Performing work requiring accreditation at a job site without being in physical possession of initial and current accreditation certificates;

(b) Permitting the duplication or use of one's own accreditation certificate by another;

(c) Performing work for which accreditation has not been received; or

(d) Obtaining accreditation from a training provider that does not have approval to offer training for the particular discipline from either EPA or from a State that has a contractor accreditation plan at least as stringent as the EPA MAP.

EPA may directly pursue deaccreditation actions without reliance on State deaccreditation or enforcement authority or actions. In addition to the above-listed situations, the Administrator may suspend or revoke the accreditation of persons who have been subject to a final order imposing a civil penalty or convicted under section 16 of TSCA, 15 U.S.C. 2615 or 2647, for violations of 40 CFR part 763, or section 113 of the Clean

Air Act, 42 U.S.C. 7413, for violations of 40 CFR part 61, subpart M.

2. Any person who performs asbestos work requiring accreditation under section 206(a) of TSCA, 15 U.S.C. 2646(a), without such accreditation is in violation of TSCA. The following persons are not accredited for purposes of section 206(a) of TSCA:

(a) Any person who obtains accreditation through fraudulent representation of training or examination documents;

(b) Any person who obtains training documentation through fraudulent means;

(c) Any person who gains admission to and completes refresher training through fraudulent representation of initial or previous refresher training documentation; or

(d) Any person who obtains accreditation through fraudulent representation of accreditation requirements such as education, training, professional registration, or experience.

H. Reciprocity

EPA recommends that each State establish reciprocal arrangements with other States that have established accreditation programs that meet or exceed the requirements of the MAP. Such arrangements might address cooperation in licensing determinations, the review and approval of training programs and/or instructors, candidate testing and exam administration, curriculum development, policy formulation, compliance monitoring, and the exchange of information and data. The benefits to be derived from these arrangements include a potential cost-savings from the reduction of duplicative activity and the attainment of a more professional accredited workforce as States are able to refine and improve the effectiveness of their programs based upon the experience and methods of other States.

I. Electronic Reporting

States that choose to receive electronic documents must include, at a minimum, the requirements of 40 CFR Part 3—(Electronic reporting) in their programs.

II. EPA Approval Process for State Accreditation Programs

A. States may seek approval for a single discipline or all disciplines as specified in the MAP. For example, a State that currently only requires worker accreditation may receive EPA approval for that discipline alone. EPA encourages States that currently do not have accreditation requirements for all disciplines required under section 206(b)(2) of TSCA, 15 U.S.C. 2646(b)(2), to seek EPA approval for those disciplines the State does accredit. As States establish accreditation requirements for the remaining disciplines, the requested information outlined below should be submitted to EPA as soon as

possible. Any State that had an accreditation program approved by EPA under an earlier version of the MAP may follow the same procedures to obtain EPA approval of their accreditation program under this MAP.

B. Partial approval of a State Program for the accreditation of one or more disciplines does not mean that the State is in full compliance with TSCA where the deadline for that State to have adopted a State Plan no less stringent than the MAP has already passed. State Programs which are at least as stringent as the MAP for one or more of the accredited disciplines may, however, accredit persons in those disciplines only.

C. States seeking EPA approval or re-approval of accreditation programs shall submit the following information to the Regional Asbestos Coordinator at their EPA Regional office:

1. A copy of the legislation establishing or upgrading the State's accreditation program (if applicable).

2. A copy of the State's accreditation regulations or revised regulations.

3. A letter to the Regional Asbestos Coordinator that clearly indicates how the State meets the program requirements of this MAP. Addresses for each of the Regional Asbestos Coordinators are shown below:

EPA, Region I, (ATC-111) Asbestos Coordinator, JFK Federal Bldg., Boston, MA 02203-2211, (617) 565-3836.

EPA, Region II, (MS-500), Asbestos Coordinator, 2890 Woodbridge Ave., Edison, NJ 08837-3679, (908) 321-6671.

EPA, Region III, (3AT-33), Asbestos Coordinator, 841 Chestnut Bldg., Philadelphia, PA 19107, (215) 597-3160.

EPA, Region IV, Asbestos Coordinator, 345 Courtland St., N.E., Atlanta, GA 30365, (404) 347-5014.

EPA, Region V, (SP-14J), Asbestos Coordinator, 77 W. Jackson Blvd., Chicago, IL 60604-3590, (312) 886-6003.

EPA, Region VI, (6T-PT), Asbestos Coordinator, 1445 Ross Ave. Dallas, TX 75202-2744, (214) 655-7244.

EPA, Region VII, (ARTX/ASBS), Asbestos Coordinator, 726 Minnesota Ave., Kansas City, KS 66101, (913) 551-7020.

EPA, Region VIII, (8AT-TS), Asbestos Coordinator, 1 Denver Place, Suite 500 999 - 18th St., Denver, CO 80202-2405, (303) 293-1442.

EPA, Region IX, Asbestos NESHAPs Contact, Air Division (A-5), 75 Hawthorne Street, San Francisco, CA 94105, (415) 972-3989.

EPA, Region X, (AT-083), Asbestos Coordinator, 1200 Sixth Ave., Seattle, WA 98101, (206) 553-4762.

EPA maintains a listing of all those States that have applied for and received EPA approval for having accreditation requirements that are at least as stringent as the MAP for one or more disciplines. Any training courses

Environmental Protection Agency

Pt. 763, Subpt. E, App. C

approved by an EPA-approved State Program are considered to be EPA-approved for purposes of accreditation.

III. Approval of Training Courses

Individuals or groups wishing to sponsor training courses for disciplines required to be accredited under section 206(b)(1)(A) of TSCA, 15 U.S.C. 2646(b)(1)(A), may apply for approval from States that have accreditation program requirements that are at least as stringent as this MAP. For a course to receive approval, it must meet the requirements for the course as outlined in this MAP, and any other requirements imposed by the State from which approval is being sought. Courses that have been approved by a State with an accreditation program at least as stringent as this MAP are approved under section 206(a) of TSCA, 15 U.S.C. 2646(a), for that particular State, and also for any other State that does not have an accreditation program as stringent as this MAP.

A. Initial Training Course Approval

A training provider must submit the following minimum information to a State as part of its application for the approval of each training course:

1. The course provider's name, address, and telephone number.
2. A list of any other States that currently approve the training course.
3. The course curriculum.
4. A letter from the provider of the training course that clearly indicates how the course meets the MAP requirements for:
 - a. Length of training in days.
 - b. Amount and type of hands-on training.
 - c. Examination (length, format, and passing score).
 - d. Topics covered in the course.
5. A copy of all course materials (student manuals, instructor notebooks, handouts, etc.).
6. A detailed statement about the development of the examination used in the course.
7. Names and qualifications of all course instructors. Instructors must have academic and/or field experience in asbestos abatement.
8. A description of and an example of the numbered certificates issued to students who attend the course and pass the examination.

B. Refresher Training Course Approval

The following minimum information is required for approval of refresher training courses by States:

1. The length of training in half-days or days.
2. The topics covered in the course.
3. A copy of all course materials (student manuals, instructor notebooks, handouts, etc.).

4. The names and qualifications of all course instructors. Instructors must have academic and/or field experience in asbestos abatement.

5. A description of and an example of the numbered certificates issued to students who complete the refresher course and pass the examination, if required.

C. Withdrawal of Training Course Approval

States must establish criteria and procedures for suspending or withdrawing approval from accredited training programs. States should follow their own administrative procedures in pursuing actions for suspension or withdrawal of approval of training programs. At a minimum, the criteria shall include:

- (1) Misrepresentation of the extent of a training course's approval by a State or EPA;
- (2) Failure to submit required information or notifications in a timely manner;
- (3) Failure to maintain requisite records;
- (4) Falsification of accreditation records, instructor qualifications, or other accreditation information; or
- (5) Failure to adhere to the training standards and requirements of the EPA MAP or State Accreditation Program, as appropriate.

In addition to the criteria listed above, EPA may also suspend or withdraw a training course's approval where an approved training course instructor, or other person with supervisory authority over the delivery of training has been found in violation of other asbestos regulations administered by EPA. An administrative or judicial finding of violation, or execution of a consent agreement and order under 40 CFR 22.18, constitutes evidence of a failure to comply with relevant statutes or regulations. States may wish to adopt this criterion modified to include their own asbestos statutes or regulations. EPA may also suspend or withdraw approval of training programs where a training provider has submitted false information as a part of the self-certification required under Unit V.B. of the revised MAP.

Training course providers shall permit representatives of EPA or the State which approved their training courses to attend, evaluate, and monitor any training course without charge. EPA or State compliance inspection staff are not required to give advance notice of their inspections. EPA may suspend or withdraw State or EPA approval of a training course based upon the criteria specified in this Unit III.C.

IV. EPA Procedures for Suspension or Revocation of Accreditation or Training Course Approval.

A. If the Administrator decides to suspend or revoke the accreditation of any person or

suspend or withdraw the approval of a training course, the Administrator will notify the affected entity of the following:

1. The grounds upon which the suspension, revocation, or withdrawal is based.
2. The time period during which the suspension, revocation, or withdrawal is effective, whether permanent or otherwise.
3. The conditions, if any, under which the affected entity may receive accreditation or approval in the future.
4. Any additional conditions which the Administrator may impose.
5. The opportunity to request a hearing prior to final Agency action to suspend or revoke accreditation or suspend or withdraw approval.

B. If a hearing is requested by the accredited person or training course provider pursuant to the preceding paragraph, the Administrator will:

1. Notify the affected entity of those assertions of law and fact upon which the action to suspend, revoke, or withdraw is based.
2. Provide the affected entity an opportunity to offer written statements of facts, explanations, comments, and arguments relevant to the proposed action.
3. Provide the affected entity such other procedural opportunities as the Administrator may deem appropriate to ensure a fair and impartial hearing.
4. Appoint an EPA attorney as Presiding Officer to conduct the hearing. No person shall serve as Presiding Officer if he or she has had any prior connection with the specific case.

C. The Presiding Officer appointed pursuant to the preceding paragraph shall:

1. Conduct a fair, orderly, and impartial hearing, without unnecessary delay.
2. Consider all relevant evidence, explanation, comment, and argument submitted pursuant to the preceding paragraph.
3. Promptly notify the affected entity of his or her decision and order. Such an order is a final Agency action.

D. If the Administrator determines that the public health, interest, or welfare warrants immediate action to suspend the accreditation of any person or the approval of any training course provider, the Administrator will:

1. Notify the affected entity of the grounds upon which the emergency suspension is based;
2. Notify the affected entity of the time period during which the emergency suspension is effective.
3. Notify the affected entity of the Administrator's intent to suspend or revoke accreditation or suspend or withdraw training course approval, as appropriate, in accordance with Unit IV.A. above. If such suspension, revocation, or withdrawal notice has not previously been issued, it will be issued

at the same time the emergency suspension notice is issued.

E. Any notice, decision, or order issued by the Administrator under this section, and any documents filed by an accredited person or approved training course provider in a hearing under this section, shall be available to the public except as otherwise provided by section 14 of TSCA or by 40 CFR part 2. Any such hearing at which oral testimony is presented shall be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under section 14 of TSCA or 40 CFR part 2.

V. Implementation Schedule

The various requirements of this MAP become effective in accordance with the following schedules:

A. Requirements applicable to State Programs

1. Each State shall adopt an accreditation plan that is at least as stringent as this MAP within 180 days after the commencement of the first regular session of the legislature of the State that is convened on or after April 4, 1994.

2. If a State has adopted an accreditation plan at least as stringent as this MAP as of April 4, 1994, the State may continue to:

a. Conduct TSCA training pursuant to this MAP.

b. Approve training course providers to conduct training and to issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.

c. Issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.

3. A State that had complied with an earlier version of the MAP, but has not adopted an accreditation plan at least as stringent as this MAP by April 4, 1994, may:

a. Conduct TSCA training which remains in compliance with the requirements of Unit V.B. of this MAP. After such training has been self-certified in accordance with Unit V.B. of this MAP, the State may issue accreditation that satisfies the requirement for TSCA accreditation under this MAP.

b. Sustain its approval for any training course providers to conduct training and issue TSCA accreditation that the State had approved before April 4, 1994, and that remain in compliance with Unit V.B. of this MAP.

c. Issue accreditation pursuant to an earlier version of the MAP that provisionally satisfies the requirement for TSCA accreditation until October 4, 1994.

Such a State may not approve new TSCA training course providers to conduct training or to issue TSCA accreditation that satisfies

Environmental Protection Agency

Pt. 763, Subpt. E, App. C

the requirements of this MAP until the State adopts an accreditation plan that is at least as stringent as this MAP.

4. A State that had complied with an earlier version of the MAP, but fails to adopt a plan as stringent as this MAP by the deadline established in Unit V.A.1., is subject to the following after that deadline date:

a. The State loses any status it may have held as an EPA-approved State for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646.

b. All training course providers approved by the State lose State approval to conduct training and issue accreditation that satisfies the requirements for TSCA accreditation under this MAP.

c. The State may not:

i. Conduct training for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646.

ii. Approve training course providers to conduct training or issue accreditation that satisfies the requirements for TSCA accreditation; or

iii. Issue accreditation that satisfies the requirement for TSCA accreditation.

EPA will extend EPA-approval to any training course provider that loses State approval because the State does not comply with the deadline, so long as the provider is in compliance with Unit V.B. of this MAP, and the provider is approved by a State that had complied with an earlier version of the MAP as of the day before the State loses its EPA approval.

5. A State that does not have an accreditation program that satisfies the requirements for TSCA accreditation under either an earlier version of the MAP or this MAP, may not:

a. Conduct training for accreditation purposes under section 206 of TSCA, 15 U.S.C. 2646;

b. Approve training course providers to conduct training or issue accreditation that satisfies the requirements for TSCA accreditation; or

c. Issue accreditation that satisfies the requirement for TSCA accreditation.

B. Requirements applicable to Training Courses and Providers

As of October 4, 1994, an approved training provider must certify to EPA and to any State that has approved the provider for TSCA accreditation, that each of the provider's training courses complies with the requirements of this MAP. The written submission must document in specific detail the changes made to each training course in order to comply with the requirements of this MAP and clearly state that the provider is also in compliance with all other requirements of this MAP, including the new recordkeeping and certificate provisions. Each submission must include the following state-

ment signed by an authorized representative of the training provider: "Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C. 1001 and 15 U.S.C. 2615), I certify that the training described in this submission complies with all applicable requirements of Title II of TSCA, 40 CFR part 763, Appendix C to Subpart E, as revised, and any other applicable Federal, state, or local requirements." A consolidated self-certification submission from each training provider that addresses all of its approved training courses is permissible and encouraged.

The self-certification must be sent via registered mail, to EPA Headquarters at the following address: Attn. Self-Certification Program, Field Programs Branch, Chemical Management Division (7404), Office of Pollution Prevention and Toxics, Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460. A duplicate copy of the complete submission must also be sent to any States from which approval had been obtained.

The timely receipt of a complete self-certification by EPA and all approving States shall have the effect of extending approval under this MAP to the training courses offered by the submitting provider. If a self-certification is not received by the approving government bodies on or before the due date, the affected training course is not approved under this MAP. Such training providers must then reapply for approval of these training courses pursuant to the procedures outlined in Unit III.

C. Requirements applicable to Accredited Persons.

Persons accredited by a State with an accreditation program no less stringent than an earlier version of the MAP or by an EPA-approved training provider as of April 3, 1994, are accredited in accordance with the requirements of this MAP, and are not required to retake initial training. They must continue to comply with the requirements for annual refresher training in Unit I.D. of the revised MAP.

D. Requirements applicable to Non-Accredited Persons.

In order to perform work requiring accreditation under TSCA Title II, persons who are not accredited by a State with an accreditation program no less stringent than an earlier version of the MAP or by an EPA-approved training provider as of April 3, 1994, must comply with the upgraded training requirements of this MAP by no later than October 4, 1994. Non-accredited persons may obtain initial accreditation on a provisional basis by successfully completing any of the training programs approved under an earlier

version of the MAP, and thereby perform work during the first 6 months after this MAP takes effect. However, by October 4, 1994, these persons must have successfully completed an upgraded training program that fully complies with the requirements of this MAP in order to continue to perform work requiring accreditation under section 206 of TSCA, 15 U.S.C. 2646.

[59 FR 5251, Feb. 3, 1994, as amended at 60 FR 31922, June 19, 1995; 70 FR 59889, Oct. 13, 2005; 75 FR 69353, Nov. 12, 2010]

APPENDIX D TO SUBPART E OF PART 763—TRANSPORT AND DISPOSAL OF ASBESTOS WASTE

For the purposes of this appendix, transport is defined as all activities from receipt of the containerized asbestos waste at the generation site until it has been unloaded at the disposal site. Current EPA regulations state that there must be no visible emissions to the outside air during waste transport. However, recognizing the potential hazards and subsequent liabilities associated with exposure, the following additional precautions are recommended.

Recordkeeping. Before accepting wastes, a transporter should determine if the waste is properly wetted and containerized. The transporter should then require a chain-of-custody form signed by the generator. A chain-of-custody form may include the name and address of the generator, the name and address of the pickup site, the estimated quantity of asbestos waste, types of containers used, and the destination of the waste. The chain-of-custody form should then be signed over to a disposal site operator to transfer responsibility for the asbestos waste. A copy of the form signed by the disposal site operator should be maintained by the transporter as evidence of receipt at the disposal site.

Waste handling. A transporter should ensure that the asbestos waste is properly contained in leak-tight containers with appropriate labels, and that the outside surfaces of the containers are not contaminated with asbestos debris adhering to the containers. If there is reason to believe that the condition of the asbestos waste may allow significant fiber release, the transporter should not accept the waste. Improper containerization of wastes is a violation of the NESHAPs regulation and should be reported to the appropriate EPA Regional Asbestos NESHAPs contact below:

Region I

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region I, JFK Federal Building, Boston, MA 02203, (617) 223-3266.

Region II

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region II, 26 Federal Plaza, New York, NY 10007, (212) 264-6770.

Region III

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region III, 841 Chestnut Street, Philadelphia, PA 19107, (215) 597-9325.

Region IV

Asbestos NESHAPs Contact, Air, Pesticide & Toxic Management, USEPA, Region IV, 345 Courtland Street, NE., Atlanta, GA 30365, (404) 347-4298.

Region V

Asbestos NESHAPs Contact, Air Management Division, USEPA, Region V, 77 West Jackson Boulevard, Chicago, IL 60604, (312) 353-6793.

Region VI

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VI, 1445 Ross Avenue, Dallas, TX 75202, (214) 655-7229.

Region VII

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VII, 726 Minnesota Avenue, Kansas City, KS 66101, (913) 236-2896.

Region VIII

Asbestos NESHAPs Contact, Air & Waste Management Division, USEPA, Region VIII, 999 18th Street, Suite 500, Denver, CO 80202, (303) 293-1814.

Region IX

Asbestos NESHAPs Contact, Air Division, USEPA, Region IX, 75 Hawthorne Street, San Francisco, CA 94105, (415) 972-3989.

Region X

Asbestos NESHAPs Contact, Air & Toxics Management Division, USEPA, Region X, 1200 Sixth Avenue, Seattle, WA 98101, (206) 442-2724.

Once the transporter is satisfied with the condition of the asbestos waste and agrees to handle it, the containers should be loaded into the transport vehicle in a careful manner to prevent breaking of the containers. Similarly, at the disposal site, the asbestos waste containers should be transferred carefully to avoid fiber release.

Waste transport. Although there are no regulatory specifications regarding the transport vehicle, it is recommended that vehicles used for transport of containerized asbestos