

**ENVIRONMENTAL PROTECTION
AGENCY****40 CFR Part 763**

[OPTS-62048B; FRL-3190-2B]

**Asbestos-Containing Material In
Schools; Model Accreditation Plan****AGENCY:** Environmental Protection Agency (EPA).**ACTION:** Model Accreditation Plan.

SUMMARY: Section 206 of Title II of the Toxic Substances Control Act (TSCA), 15 U.S.C. 2646, requires EPA to develop by April 20, 1987 a Model Contractor Accreditation Plan. To conduct asbestos-related work in schools, persons must receive accreditation in order to inspect school buildings for asbestos, develop management plans, and design or conduct response actions. Such persons can be accredited by States, which are required to adopt contractor accreditation plans at least as stringent as the EPA Model Plan, or by completing an EPA-approved training course and passing an examination for such course. The EPA Model Contractor Accreditation Plan, which will be codified in the Code of Federal Regulations, establishes those areas of knowledge of asbestos inspection, management plan development and response action technology that persons seeking accreditation must demonstrate and States must include in their accreditation programs.

EPA is not required to issue this Model Plan as a final regulation, since section 206 of TSCA only requires the Agency to "develop" the Model Plan "after consultation with affected organizations." However, EPA has decided to make the Model Plan available in the Code of Federal Regulations as an appendix to regulations required under TSCA Title II.

DATE: This Model Plan is effective June 1, 1987.

FOR FURTHER INFORMATION CONTACT: By mail: Edward A. Klein, Director, TSCA Assistance Office (TS-799), Office of Toxic Substances, Environmental Protection Agency, 401 M Street SW., Washington, DC 20460. Office location and telephone number: Rm. E-543, (202-554-1404).

SUPPLEMENTARY INFORMATION: Elsewhere in this issue of the *Federal Register*, EPA is proposing rules involving asbestos-containing materials in schools. The proposed rules were developed through the regulatory negotiation process described in the preamble to that proposal. The proposed

rules require the use of accredited persons to perform certain tasks associated with asbestos-related work in schools.

In addition to developing the proposed rules, the regulatory negotiation committee negotiated and reached agreements, in principle, on the requirements of this EPA Model Contractor Accreditation Plan required to be developed by April 20, 1987 under section 206 of Title II of TSCA. This Model Plan is issued in this *Federal Register* document and will be codified in the Code of Federal Regulations.

Section 206 of TSCA Title II, requires local education agencies (LEAs) to use accredited persons to perform the following asbestos-related tasks:

1. Inspecting for asbestos-containing materials (ACM) in school buildings under a local education agency's authority.
2. Preparing management plans for such schools.
3. Designing or conducting response actions with respect to ACM in such schools.

The Model Plan requires persons seeking accreditation to take an initial training course, pass an examination, and participate in continuing education. LEAs have the option of hiring accredited contractors to conduct asbestos work or having in-house personnel receive accreditation. Accredited personnel are not required to be used to conduct operations and maintenance activities.

TSCA Title II requires States to adopt a contractor accreditation plan at least as stringent as the EPA Model Plan. States must adopt such a plan within 180 days after the commencement of the first regular session of the State's legislature which convenes following the date EPA issues the Model Plan. Persons can be accredited by a State with an accreditation program at least as stringent as the EPA Model Plan. Persons may also obtain accreditation by passing an EPA-approved training course and examination that, in EPA's judgment, are consistent with the Model Plan.

States may exercise their authority to have accreditation program requirements more stringent than the Model Plan. As a result, some EPA-approved training courses may not meet the requirements of a particular State's accreditation program. Sponsors of training courses and persons who have received accreditation or are seeking accreditation should contact individual States to check on accreditation requirements.

The Model Contractor Accreditation Plan is divided into four units. The first

unit discusses EPA's Model Contractor Accreditation Plan for States. Unit II specifies procedures a State must follow to receive EPA Model Plan approval for the State's contractor accreditation program. Unit III discusses EPA approval of training courses. The fourth unit addresses the treatment of persons who have had previous training and an examination.

In Unit I, the Model Contractor Accreditation Plan for States specifies separate accreditation requirements for inspectors, management planners, and for those persons who design and carry out response actions. This latter group includes abatement project designers, asbestos abatement contractors, supervisors, and workers.

Persons in each of the above disciplines perform a different function. Inspectors identify and assess the ACM's condition. Management planners use the data gathered by inspectors to assess the ACM's hazard, determine the appropriate response actions, and develop a schedule for implementing response actions. Abatement project designers determine how the asbestos abatement work should be conducted. Lastly, asbestos abatement contractors, supervisors and workers carry out the abatement work.

The length of initial training courses for accreditation under the Model Plan varies by discipline. Inspectors must take a 3-day training course. Management planners must take the inspection course plus an additional 2 days devoted to management planning. Abatement project designers are required to have at least 3 days of training. Asbestos abatement contractors and supervisors must take a 4-day training course. Asbestos abatement workers are required to take a 3-day training course.

For asbestos abatement workers, while EPA is requiring a 3-day training course, States may want to consider requiring 4 days of training. States could use the additional day to provide more hands-on training or to elaborate on State regulations. States may also wish to consider the relative merits of a worker apprenticeship program. In any case, EPA recommends worker training courses be small, with a student to teacher ratio of about 25 to 1.

States may also consider requiring project monitors to be trained. Project monitors oversee the abatement work and are the on-site representative of the building owner. These persons should take the training course for asbestos abatement contractors and supervisors.

The second unit of the Model Plan specifies procedures a State must follow

to receive EPA Model Plan approval for the State's contractor accreditation program. States may seek approval for one or more of the disciplines requiring accreditation under TSCA Title II. For example, if a State currently only has an accreditation program for inspectors, EPA will grant a partial approval of the State's contractor accreditation program provided that the State's requirements for inspectors are at least as stringent as those in the EPA Model. EPA encourages States to seek partial approvals. EPA will publish an initial list of those States that have programs at least as stringent as the EPA Model within 90 days after publication of this Federal Register Notice.

The third unit of this Model Plan discusses EPA approval of courses. EPA will require sponsors seeking approval of training courses to submit training materials to EPA. The training course and examination must be consistent with the Model Plan's requirements in these areas. EPA will publish an initial list of those courses and examinations approved by EPA for purposes of TSCA Title II within 90 days after publication of this Federal Register Notice.

The fourth unit of the Model Plan addresses the treatment of persons who have had previous training. Persons may be accredited if they have completed an EPA-approved asbestos training course in their discipline and have passed or pass an examination in their discipline. Such persons may be accredited, on an interim basis, if in EPA's judgment the course and examination are equivalent to the Model Plan's requirements.

The interim accreditation will extend for no longer than 1 year after the date that the State in which the person is employed adopts an accreditation program at least as stringent as the EPA Model. If the State does not adopt an accreditation program within the 180 day time period after the State legislature reconvenes for its first regular session, the person with interim accreditation must complete training requirements at least as stringent as those described in the EPA Model within 1 year after the date that the State was required to have established a program. EPA will publish a list of those courses and examinations which qualify for equivalency treatment under the provisions for interim accreditation within 90 days after publication of this Federal Register Notice.

EPA has consulted extensively with affected organizations on the Model Plan. The Agency has had extensive discussions on Model Plan issues with interested persons even before Title II was enacted. EPA also solicited comment on general issues affecting the

Model Plan in the Advanced Notice of Proposed Rulemaking issued on December 31, 1986, in compliance with TSCA Title II. Finally, since enactment of TSCA Title II, EPA has solicited comment from over 75 organizations and has discussed the Model Plan in the negotiated rulemaking. The various data, views, and arguments submitted are part of the administrative record for this proceeding.

I. Administrative Record

EPA has established an administrative record under control number [OPTS-62048B]. A public version of the record and an index of documents in the record are available to the public in the Toxic Substances Public Information Office from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays. The Public Information Office is located in Rm. NE-G004, 401 M St., SW., Washington, DC.

II. References

- (1) USEPA. "Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials," EPA 560/5-85-030a. October 1985.
- (2) USEPA. Friable Asbestos-Containing Materials in Schools: Identification and Notification [40 CFR Part 763 Subpart F].
- (3) USEPA. National Emission Standards for Hazardous Air Pollutants: Amendments to Asbestos Standard; Final Rule [40 CFR Part 61].
- (4) USDOL. OSHA. Occupational Exposure to Asbestos, Final Rule [29 CFR 1926.58].
- (5) USEPA. Toxic Substances; Asbestos Abatement Projects; Final Rule [40 CFR Part 763 Subpart G].
- (6) USDOL. OSHA. Occupational Safety and Health Standards, Subpart I, Personal Protective Equipment [29 CFR 1910.134].

III. Regulatory Assessment Requirements

A. Executive Order 12291

Under Executive Order 12291, EPA prepared a Regulatory Impact Analysis. The analysis estimated that the first year cost of this Model Accreditation Plan would be about \$7.7 million. EPA believes that these costs are reasonable. Under Executive Order 12291, EPA must judge whether a regulation is "major" and therefore requires a Regulatory Impact Analysis. EPA has determined that this Model Accreditation Plan, by itself, will not have an effect on the economy of \$100 million or more and it will not have a significant effect on competition, costs, or prices. For more detailed information, see the proposed rules on Asbestos-Containing Materials found elsewhere in this issue of the Federal Register and the accompanying Regulatory Impact Analysis.

This Model Accreditation Plan was submitted to the Office of Management and Budget (OMB) for review as required by Executive Order 12291.

B. Regulatory Flexibility Act

EPA believes the economic impact of the Model Accreditation Plan on small businesses is negligible. Roughly 25 States already have accreditation programs of some type in effect. In addition, EPA-funded training centers currently train several thousand persons each year.

C. Paperwork Reduction Act

The information collection requirements contained in this Model Accreditation Plan have been submitted to the Office of Management and Budget (OMB) as part of the proposed regulations concerning asbestos-containing materials in schools under the provisions of the Paperwork Reduction Act. Comments on these requirements should be submitted to the Office of Information and Regulatory Affairs at OMB and marked Attention: Desk Officer for EPA.

List of Subjects in 40 CFR Part 763

Asbestos, Environmental protection, Hazardous substances, Occupational safety and health, Reporting and recordkeeping requirements, Schools.

Dated: April 20, 1987.

Lee M. Thomas,
Administrator.

PART 763—[AMENDED]

Therefore, 40 CFR Part 763 is amended as follows:

1. The authority citation for Part 763 is revised to read as follows:

Authority: 15 U.S.C. 2605 and 2607(c). Subpart E also issued under 15 U.S.C. 2641, 2643, 2646, and 2647.

2. Subpart E is added consisting at this time of Appendix C to read as follows:

Subpart E—Asbestos-Containing Materials in Schools

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Appendix C to Subpart E—EPA Model Contractor Accreditation Plan

I. Model Contractor Accreditation Plan for States

The Model Contractor Accreditation Plan for States has six components:

- (1) Initial training,
- (2) Examinations,
- (3) Refresher training course,
- (4) Qualifications,
- (5) Decertification requirements,

(6) Reciprocity.

For purposes of TSCA Title II accreditation requirements, the duration of initial and refresher training courses is specified in number of days. A day of training equals 8 hours including breaks and lunch.

In several instances, initial training courses for a specific discipline (e.g., workers, inspectors) require hands-on training. For asbestos abatement contractors, supervisors and workers, hands-on training should include working with asbestos-substitute materials, fitting and using respirators, use of glovebags, donning protective clothing, constructing a decontamination unit as well as other abatement work activities. Hands-on training must permit contractors, supervisors, and workers to have actual experience performing tasks associated with asbestos abatement. For inspectors, hands-on training should include conducting a simulated building walk-through inspection and respirator fit testing.

1. Initial Training

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

A. Inspectors. A State shall require that all persons seeking accreditation as inspectors complete a 3-day training course as outlined below. The 3-day program 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.

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 period for asbestos-related diseases; a discussion of the relationship of asbestos exposure to asbestosis, lung cancer, mesothelioma, and cancer 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 disruption; 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 asbestos-containing material (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 in schools.* 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; sampling equipment the inspector should use; patching or repair of damage done in sampling; an inspector's repair kit; discussion of polarized light microscopy; choosing an accredited laboratory to analyze bulk samples; quality control and quality assurance procedures.

(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-mouth seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors; factors that alter respirator 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 by TSCA Title II section 203(i)(1).

(l) *Regulatory review.* EPA Worker Protection Rule found at 40 CFR Part 763, Subpart G; TSCA Title II; OSHA Asbestos Construction Standard 29 CFR 1926.58; OSHA respirator requirements found at 29 CFR 1910.134; the Friable ACM in Schools Rule found at 40 CFR Part 763, Subpart F; applicable State and local regulations, and differences in Federal/State requirements where they apply and the effects, if any, on public and non-public schools.

(m) *Field trip.* To include a field exercise including a walk-through inspection; on-site discussion on information gathering and 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.

B. Management Planners. A State shall require that all persons seeking accreditation as management planners complete an inspection training course as outlined above and a 2-day management planning training course. The 2-day training program shall include lectures, demonstrations, course review, and a written examination. EPA recommends the use of audiovisual materials to complement lectures, where appropriate.

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

(a) *Course overview.* The role 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 as given in section 203(i)(1) of TSCA Title II; summarized field data and laboratory results; comparison between 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 approach 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 high efficiency particulate aerosol (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 (NESHAPS) 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.

(j) *Assembling and submitting the management plan.* Plan requirements 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 operations and maintenance costs; Asbestos School Hazard Abatement Act grants and loans.

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

C. Abatement Project Designers. A State shall require that all persons seeking accreditation as abatement project designers complete either a 3-day abatement project designer training course as outlined below or the 4-day asbestos abatement contractor and supervisor's training course that is outlined in the next sub-unit. The 3-day abatement project designer training program 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 3-day 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 cancer 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.* 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; use of negative pressure exhaust ventilation equipment; use of high efficiency particulate aerosol (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.* Visit an abatement site or other suitable building site, including on-site discussions of abatement design, building walk-through inspection, and discussion following the walk-through.

(f) *Employee personal protective equipment.* To include the classes and characteristics of respirator types; limitations of respirators; proper selection, inspection, donning, use, maintenance, and storage procedures; methods for field testing of the facepiece-to-face seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors; factors that alter respirator fit (e.g., facial hair); 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.

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

(k) *Writing abatement specifications.* Means and methods specifications versus performance specifications; design of abatement in occupied buildings; modification of guide specifications to a particular building; worker and building occupant health/medical considerations; replacement of ACM with non-asbestos substitutes; clearance of work area after abatement; air monitoring for clearance.

(l) *Preparing abatement drawings.* Use of as-built drawings; use of inspection photographs and on-site reports; particular problems in abatement drawings.

(m) *Contract preparation and administration.*

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

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

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

(q) *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.

(r) *Relevant Federal State, and local regulatory requirements.* Procedures and standards, including:

(1) Requirements of TSCA Title II.

(2) 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants, Subparts A (General Provisions) and M (National Emission Standard for Asbestos).

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

(4) EPA Worker Protection Rule, found at 40 CFR Part 763, Subpart G.

(5) OSHA Asbestos Construction Standard found at 29 CFR 1926.58.

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

D. Asbestos Abatement Contractors and Supervisors. A State shall require that all persons seeking accreditation as asbestos abatement contractors or supervisors complete a 4-day training course as outlined below. The training course shall include lectures, demonstrations, at least 6 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.

The contractor may designate a supervisor to serve as his agent for the purposes of the accreditation requirement. For purposes of TSCA Title II accreditation, asbestos abatement supervisors include those persons who provide supervision and direction to workers engaged in asbestos removal, encapsulation, enclosure, and repair. Supervisors may include those individuals with the position title of foreman, working foreman, or leadman pursuant to collective bargaining agreements. Under this Model Plan, at least one supervisor is required to be at the worksite at all times while work is in progress. Asbestos workers must have access to accredited supervisors throughout the duration of the project.

The contractor and supervisor's 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; latency period for disease.

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

respirators and their proper selection, inspection, donning, use, maintenance, and storage procedures; methods for field testing of the facepiece-to-face seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors; factors that alter respirator 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 and maintenance of barriers and decontamination enclosure systems; positioning of warning signs; electrical and ventilation system lockout; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure ventilation equipment; use of high efficiency particulate air (HEPA) vacuums; proper clean-up and disposal procedures. Work practices for removal, encapsulation, enclosure, and repair; emergency procedures for sudden releases; potential exposure situations; transport and disposal procedures, and recommended and prohibited work practices. Discussion of new abatement-related techniques and methodologies may be included.

(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 requirements for 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 a description of aggressive sampling, sampling equipment and methods, reasons for air monitoring, types of samples, and interpretation of results, specifically from analysis performed by polarized light, phase-contrast, and electron microscopy analyses.

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

(A) Requirements of TSCA Title II.

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

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

(D) OSHA Asbestos Construction Standard (29 CFR 1926.58).

(E) EPA worker Protection Rule, 40 CFR Part 763, Subpart G.

(j) *Respiratory protection programs and medical surveillance 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.*

Discussion of key elements that are included in contract specifications.

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

E. Asbestos Abatement Workers.

Each State shall require that all persons seeking accreditation as asbestos abatement workers complete at least a 3-day training course as outlined below. The worker training course shall include lectures, demonstrations, at least 6 hours of hands-on training, individual respirator fit testing, course review, and an examination. EPA recommends the use of audiovisual 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, synergism between cigarette smoking and asbestos exposure, and latency period for disease.

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

respirators and their proper selection, inspection, donning, use, maintenance, and storage procedures; methods for field testing of the facepiece-to-face seal (positive and negative pressure fitting tests); qualitative and quantitative fit testing procedures; variability between field and laboratory protection factors; factors that alter respirator 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-disposal clothing; and regulations covering personal protective equipment.

(d) *State-of-the-art work practices.*

Proper asbestos abatement activities including descriptions of proper construction and maintenance of barriers and decontamination enclosure systems; positioning of warning signs; electrical and ventilation system lock-out; proper working techniques for minimizing fiber release; use of wet methods; use of negative pressure ventilation equipment; use of high efficiency particulate air (HEPA) vacuums; proper clean-up and disposal procedures; work practices for removal, encapsulation, enclosure, and repair; 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 requirements for 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. Examinations

Each State shall administer a closed book examination or designate other entities such as State-approved 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 accreditation in a specific discipline shall pass the examination for that discipline to receive accreditation. For example, a person seeking accreditation as an inspector must pass the State's inspector accreditation examination.

States may develop their own examinations, have training courses develop examinations or use standardized examinations developed for purposes of TSCA Title II accreditation. The National Asbestos Council (NAC) is working with the Georgia Institute of Technology to develop standardized examinations for all disciplines. States may supplement standardized examinations with questions on State regulations. To receive more information on this topic, interested States should contact NAC at the following address: National Asbestos Council, Training Department, 2786 North Decatur Rd., Suite 260, Decatur, Georgia 30033.

Each examination shall adequately cover the topics included in the training course for that discipline. Persons who pass the State examination, and fulfill whatever other requirements the State imposes, must receive some form of identification indicating that they are accredited in a specific discipline. For example, a State may wish to provide each accredited person with a photoidentification card. Where necessary, States should consider developing examinations in languages other than English.

The following are the requirements for examinations in each area:

1. Inspectors:

- i. 50 multiple choice questions.
- ii. Passing score: 70 percent.

2. Management Planners:

- i. 50 multiple choice questions.
- ii. Passing score: 70 percent.

3. Abatement Project Designers:

- i. 100 multiple choice questions.
- ii. Passing score: 70 percent.

4. Asbestos abatement contractors and supervisors:

- i. 100 multiple choice questions.
- ii. Passing score: 70 percent.

5. Asbestos Abatement Workers:

- i. 50 multiple choice questions.
- ii. Passing score: 70 percent.

3. Refresher Training Courses

For all disciplines except inspectors, a State's accreditation program shall include a 1-day annual refresher training course for reaccreditation. Refresher courses for inspectors shall be a half-day in length. Management planners shall attend the inspector refresher course, plus an additional half-day on management planning.

The refresher course shall be specific to each discipline. For each discipline, the refresher course shall review and discuss changes in Federal and State 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 an additional year. A State may consider requiring persons to pass reaccreditation examinations at specific intervals (every 3 years, for example).

4. Qualifications

In addition to training and an examination, a State may require whatever qualifications and experience that the State considers appropriate for some or all disciplines. States may want to consider requiring qualifications similar to the examples outlined below for inspectors, management planners and abatement project designers. States should modify these as appropriate. In addition, States may want to include some requirements based on experience in conducting a task directly or in an apprenticeship role:

Inspectors

Qualifications—Possess a high school diploma.

States may want to require an Associate's Degree in particular fields (e.g., environmental or physical sciences).

Management Planners

Qualifications—Registered architect, engineer, or certified industrial hygienist or related scientific field.

Abatement Project Designer

Qualifications—Registered architect, engineer, or a certified industrial hygienist.

5. Decertification Requirements

A State must include conditions and procedures for decertifying accredited inspectors, management planners, abatement project designers, asbestos abatement contractors, supervisors and workers.

6. Reciprocity

EPA recommends that each State establish reciprocal arrangements with other States that have established

accreditation programs that meet or exceed the EPA Model Plan.

II. EPA Approval Process for State Contractor Accreditation Programs

States seeking EPA approval of their State Contractor Accreditation Programs required under TSCA shall follow the procedures outlined below. States may seek approval for some or all disciplines as specified in the Model Plan. For example, a State that currently only requires worker accreditation can receive EPA approval for that discipline alone. EPA encourages States that currently do not have accreditation requirements for all the disciplines required under TSCA 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.

States seeking EPA approval shall submit the following information to the Regional Asbestos Coordinator at their EPA Regional Office:

- (1) A copy of the legislation establishing the State's accreditation program (if applicable).
- (2) A copy of the State's accreditation regulations.
- (3) A letter to the Regional Asbestos Coordinator that clearly indicates how the State meets the program requirements of the Model Contractor Accreditation Plan for States. Addresses of Regional Asbestos Coordinators are shown below:

Asbestos Coordinator, EPA, Region I, Air & Management Div. (APT-231), JFK Federal Bldg., Boston, MA 02203, (617) 565-3273

Asbestos Coordinator, EPA, Region II, Woodbridge Ave., Raritan Depot, Bldg. 10, Edison, NJ 08837, (201) 321-6668, (FTS) 340-6671

Asbestos Coordinator, EPA, Region III (3HW-40), 841 Chestnut Bldg., Philadelphia, PA 19107, (215) 597-9859, (FTS) 597-9859

Asbestos Coordinator, EPA, Region IV, 345 Courtland St. NE, Atlanta, GA 30365, (404) 347-3864, (FTS) 257-3864

Asbestos Coordinator, EPA, Region V, 536 S. Clark Street, Chicago, IL 60604, (312) 886-6879, (FTS) 886-6879

Asbestos Coordinator, 6t-Pt, EPA, Region VI, 1445 Ross Avenue, Dallas, TX 75202-2733, (214) 655-7244, (FTS) 255-7235

Asbestos Coordinator, EPA, Region VII, 726 Minnesota Ave., Kansas City, KS 66101, (913) 236-2834, (FTS) 757-2834

Asbestos Coordinator, (8AT-TS), EPA, Region VIII, 1 Denver Place, 999-18th Street, Suite 1300, Denver, CO 80202-2413, (303) 564-1730, (FTS) 564-1742

Asbestos Coordinator, (T-52), EPA, Region IX, 215 Fremont Street, San Francisco, CA 94105, (415) 974-7290, (FTS) 454-7290

Asbestos Coordinators, EPA, Region X, 1200 Sixth Avenue, Seattle, WA-98101, (206) 442-2870, (FTS) 399-2870

EPA will publish a list of those States that have accreditation requirements that are at least as stringent as the EPA Model for one or more disciplines. Any training courses approved by such States are EPA-approved for purposes of accreditation.

III. EPA Approval of Training Courses

Individuals or groups wishing to sponsor training courses for disciplines required to be accredited under TSCA Title II may apply for EPA approval. For a course to receive approval, it must meet the requirements for the course as outlined in the Model Plan for States. EPA will not review courses that are already approved in a State that has a Contractor Accreditation Program that meets the EPA Model. These courses already are approved under TSCA Title II in the State where they are approved and in all States without an accreditation program that meets the EPA Model.

Applicants shall send the information requested below to the Regional Asbestos Coordinator at the EPA Regional Office (see addresses in Section II) located in the Region where the training course maintains its principal business office. The following information is required:

- (1) The course sponsor's name, address and phone number.
- (2) A list of any States that currently approve the training course.
- (3) The course curriculum.
- (4) A letter from the training course sponsor that clearly indicates how the course meets the Model Plan requirements for:
 - (a) Length of training in days.
 - (b) Amount and type of hands-on training.
 - (c) Examinations (length, format, and passing score).
 - (d) Topics covered in the course.
 - (e) 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 course instructors. Instructors must have academic credentials and/or field experience in asbestos abatement.
 - (8) Description and an example of numbered certificates issued to students

who attend the course and pass the examination.

For refresher courses in any of the disciplines, information required is as follows:

- (1) Length of training.
- (2) Topics covered in the course.
- (3) A copy of all course materials.
- (4) Names and qualifications of course instructors.
- (5) Description and an example of certificates issued to students who complete the refresher course.

As noted above, the training course administrator must issue numbered certificates to students who successfully pass the training course's examination. The numbered certificate would indicate the name of the student and the course completed, the dates of the course and the examination, and a statement indicating that the student passed the examination.

The certificate also would include an expiration date for accreditation that is 1 year after the date on which the student completed the course and examination. Training course administrators who offer refresher training courses must also provide certificates with all of the above information (except testing information).

Accredited persons must have their initial and current accreditation certificates at the location where they are conducting work. Failure to have accreditation certificates at the job site could result in decertification.

EPA may revoke or suspend EPA approval if field site inspections indicate a training course is not conducting training that meets the requirements of the Model Plan. Training course sponsors shall permit EPA representatives to attend, evaluate, and monitor any training course without charge to EPA. EPA inspection staff may not give advance notice of their inspections.

EPA will publish a list of those training courses that are consistent with the Model Plan and are approved for purposes of TSCA Title II.

IV. Provisions for Interim Accreditation

TSCA Title II enables EPA to permit persons to be accredited on an interim basis if they have attended previous EPA-approved asbestos training and have passed (or pass) an asbestos examination. Only those persons who have taken training courses since January 1, 1985 will be considered under these interim accreditation provisions. EPA will determine whether the course

and examination are equivalent to the training and examination requirements of the Model Plan. This accreditation is interim since the person shall be considered accredited for only 1 year after the date on which the State where the person is employed establishes an accreditation program at least as stringent as the EPA Model.

For purposes of the Model Plan, an equivalent training course is one that is essentially similar in length and content to the curriculum found in the Model Plan. In addition, an equivalent examination must be essentially similar to the requirements of the Model Plan.

Persons who have taken equivalent courses in their discipline, and can produce evidence that they have successfully completed the course by passing the examination, are accredited on an interim basis under TSCA Title II. They can conduct work under TSCA Title II in their discipline for 1 year after their State establishes an accreditation program in their discipline that is at least as stringent as the EPA Model. EPA will publish a list of training courses that are equivalent to the training requirements for each discipline in the Model Plan.

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