

453 CMR 6.00: THE REMOVAL, CONTAINMENT OR ENCAPSULATION OF ASBESTOS

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6.01: Authority, Purpose and Scope

(1) Authority. 453 CMR 6.00 is promulgated in accordance with and under the authority of M.G.L. c. 149, §§ 6 through 6F.

(2) Purpose. 453 CMR 6.00 shall establish and/or constitute:

- (a) Requirements necessary to protect the health and safety of the general public and persons engaged in, or associated with, the removal, enclosure, encapsulation or disturbance of asbestos or asbestos-containing material and to prevent occupational diseases.
- (b) Standards of competency for persons or entities engaged in or performing removal, enclosure or encapsulation of asbestos or asbestos-containing material.
- (c) Minimum standards to be used by insurers in the inspection of risk, measurement of hazards and the determination of adequate and reasonable rates of insurance as prescribed by the provisions of M.G.L. c. 152, § 65J.
- (d) Standards for the licensure of persons, firms, corporations or other entities who or which enter into, engage in or work at the business of removal, enclosure or encapsulation of asbestos or asbestos-containing material, and for the certification of asbestos workers, supervisors, consultants, providers of asbestos analytical services, and others performing asbestos work.
- (e) Standards for the certification of entities engaged in the business of training others, where such training is a condition of licensure or certification.

(3) Scope. 453 CMR 6.00 applies to all work, including construction, demolition, alteration, repair and maintenance involving any facility or location, where such work involves the use, handling or disposal of asbestos, asbestos-containing material or asbestos-contaminated waste. 453 CMR 6.00 also applies to asbestos training, consultation and/or analytical services, including but not limited to: asbestos inspection and hazard assessment services, the preparation of asbestos project designs, asbestos project oversight and/or monitoring, asbestos training required by 453 CMR 6.00 and asbestos analysis performed in connection with any of the above services.

6.01: continued

(4) Exceptions. The Director of the Department of Labor and Workforce Development may grant exceptions to 453 CMR 6.00 in those instances where it is clearly evident that existing conditions prevent compliance, or where compliance will create an undue hardship, but only in circumstances in which granting the exception will maintain the protection of the health and safety of workers and the general public. Requests for exceptions to 453 CMR 6.00, which shall be submitted in writing to the Director, shall specify those provisions of 453 CMR 6.00 for which exceptions are sought, the reasons for requesting the exceptions and any proposed alternatives to requirements of 453 CMR 6.00. Exceptions granted by the Director shall remain in force until rescinded in writing or until a certain date set at the time that the exception is granted.

(5) Alternative Methods. The Director shall have the authority to allow the use of newly developed techniques, methods, or equipment that provide a level of protection for workers and the general public which equals or exceeds that specified by 453 CMR 6.00.

(6) Right of Entry. Pursuant to M.G.L. c. 149, §§ 10 and 17, the Director or the Director's authorized representative shall have the right of entry to any work site, place of employment or other location for the purpose of conducting investigations or inspections.

(7) Regulations Incorporated. The following rules and regulations of the United States Environmental Protection Agency are hereby incorporated by reference:

- (a) Asbestos-Containing Materials in Schools Rule; 40 CFR Part 763, Subpart E, effective October 30, 1987; and
- (b) Asbestos-Containing Materials in Schools Rule; 40 CFR Part 763, Appendix C to Subpart E, Asbestos Model Accreditation Plan, effective April 4, 1994.

6.02: Definitions

For the purpose of 453 CMR 6.00, the following definitions shall apply:

AHERA - The Asbestos Hazard Emergency Response Act, 15 U.S.C. 2646 *et seq.*, and the regulations promulgated thereunder, including 40 CFR Part 763.

Amended Water - Water to which a wetting agent has been added.

Asbestos - The asbestiform varieties of chrysotile, crocidolite, cummingtonite-grunerite (amosite), anthophyllite, actinolite and tremolite.

Asbestos Abatement - Any activity which has as its principal purpose the removal, enclosure or encapsulation of asbestos or asbestos-containing material, including, but not limited to activity in connection with the renovation, repair or demolition of a facility and the replacement of furnaces or boilers that are covered or coated with asbestos-containing material.

Asbestos Analytical Services - Services which include, but are not limited to the counting or enumeration of asbestos fibers in the air (air monitoring analysis) and the identification and quantification of asbestos in materials (bulk sample analysis) in connection with any asbestos hazard assessment, building inventory, exposure measurement, abatement project or associated project.

Asbestos-Associated Project - A work operation involving the disturbance of three or fewer linear feet of asbestos surfacing located on pipes, ducts or wires or three or fewer square feet of asbestos surfacing located on structures or components other than pipes, ducts or wires and which does not have as its principal purpose the removal, enclosure or encapsulation of asbestos or asbestos-containing material. Such activity shall include but not be limited to general building maintenance, electrical and low voltage wiring, plumbing, carpentry, masonry, HVAC and heating service.

Asbestos-Associated Project Worker - Any person who has successfully completed the training specified at 453 CMR 6.10(4)(h).

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Asbestos Consultants - Persons who perform design, oversight or assessment functions in asbestos abatement or asbestos hazard control, including asbestos inspectors, management planners, project designers and project monitors, as defined herein.

Asbestos-Containing Material (ACM) - Any material containing more than one percent asbestos.

Asbestos Contractor - Any person, firm, corporation or other entity who or which has a valid license issued by the Commonwealth for the purpose of entering into or engaging in asbestos work.

Asbestos Inspector - A person who identifies, assesses the condition of, or collects pre-abatement samples of asbestos-containing materials.

Asbestos Laboratory Supervisor - A person so designated pursuant to 453 CMR 6.08(4)(a), who is jointly responsible, along with other responsible persons of a certified asbestos analytical service, if any, for the adherence to the applicable analytical protocols, the maintenance of proper quality control procedures and the accuracy of the analytical results.

Asbestos Management Planner - A person who uses data gathered by asbestos inspectors to assess asbestos hazards, determine appropriate response actions and develop implementation plans.

Asbestos Project Designer - A person who determines how asbestos abatement work should be conducted by preparing plans, designs, procedures, work scope or other substantive direction or criteria.

Asbestos Project Monitor - A person who:

- (a) Collects air and bulk samples and performs visual inspections for the purpose of determining asbestos project completion;
- (b) Collects environmental asbestos air samples for the purpose of assessing present or future potential for exposure to airborne asbestos; or
- (c) Functions as the on-site representative of the facility owner or other persons by overseeing the activities of the asbestos contractor.

Asbestos Response Action - Any work operation involving the disturbance of more than three linear feet of friable asbestos on or in pipes, ducts or wires or more than three square feet of friable asbestos on or in structures or components other than pipes, ducts or wires.

Asbestos Supervisor - An individual or agent of an asbestos abatement entity having managerial or supervisory authority over asbestos workers or a foreperson with responsibility for the completion of asbestos response actions or portions thereof.

Asbestos Training Provider - Any entity which has been duly certified pursuant to 453 CMR 6.09 to provide asbestos training required by 453 CMR 6.10(1).

Asbestos Work - The business of removal, enclosure or encapsulation of asbestos or asbestos-containing material in any facility.

Asbestos Worker - A person not acting as a supervisor who performs asbestos work as an employee, or who performs such work under the direction and control of another, with or without compensation.

Category I Non-Friable Asbestos-Containing Building Material - Asbestos-containing packings, gaskets, resilient floor coverings, and asphalt roofing products containing more than 1% asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR Part 763, section 1, Polarized Light Microscopy.

6.02: continued

Category II Non-Friable Asbestos-Containing Building Material - Any material excluding Category I non-friable ACM containing more than 1% asbestos as determined using the method specified in Appendix A, subpart F, 40 CFR Part 763, section 1, Polarized Light Microscopy that when dry cannot be crumbled, pulverized or reduced to powder by hand pressure.

Cease and Desist Order - An order issued by the Director closing any work site where the Director determines that violations of a work place standard concerning the protection of the occupational health and safety of workers and the general public or of any standard or requirement of licensure exist.

Certification - The issuance of a certificate pursuant to 453 CMR 6.00 authorizing an individual or entity to engage in activities pertaining to asbestos work.

Clearance Air Monitoring - Air monitoring conducted by a certified asbestos project monitor at the conclusion of an asbestos project which is used in combination with visual inspection to assess adequacy of cleanup and project completion.

Containment - As used in M.G.L. c. 149, § 6B and 453 CMR 6.00, the word "containment" shall mean "enclosure", as defined herein.

Demolition - The wrecking or removal of any facility or portion thereof together with any related debris-handling operations.

Department - The Massachusetts Department of Labor and Workforce Development, Division of Occupational Safety.

Director - The Director of the Massachusetts Department of Labor and Workforce Development or his/her designee.

Emergency Project - Any asbestos project necessary to protect or preserve life or property from imminent harm, damage or deterioration, as determined by the Director.

Encapsulation - The application of a coating or liquid sealant to asbestos-containing material to reduce the tendency of the material to release fibers.

Enclosure - The covering or wrapping of friable asbestos-containing material in, under or behind air-tight barriers.

Entity - Any partnership, firm, association, corporation, sole proprietorship or any other business concern, state or local government agency or institution or political subdivisions or authorities thereof, or any religious, social or union organization, whether operated for profit or otherwise.

EPA - The United States Environmental Protection Agency.

Facility - Any private or public building or structure including but not limited to those used for institutional, residential (including single family homes), commercial or industrial purposes and vessels while ashore or in drydock.

Friable Asbestos-Containing Material (Friable ACM) - Any material containing more than one per cent asbestos, 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. The characteristic of friability shall apply to the asbestos material and is not influenced or affected by coverings, coatings or other means of separating asbestos materials by hand.

6.02: continued

Glove Bag - A manufactured plastic bag-type of enclosure with built-in gloves, which is placed with an air-tight seal around an asbestos covering and which permits asbestos material contained by the bag to be removed without releasing asbestos fibers into the atmosphere.

HEPA Filtration - High efficiency particulate air filtration capable of filtering 0.3 micron particles with 99.97% efficiency.

Inspection - Any activity undertaken in a facility or location subject to the requirements of these regulations for the purpose of determining the presence, location and/or condition of friable or non-friable asbestos-containing material or suspected asbestos-containing material, whether by visual or physical examination, or by the collection of samples of such material. This term includes recordkeeping in connection with such asbestos inspection activities and reinspections of friable and non-friable known or assumed asbestos-containing material which has been previously identified, but does not include the following:

- (a) Periodic surveillance of the type described in 40 CFR Part 763.92(b) solely for the purpose of recording or reporting a change in the condition of known or assumed asbestos-containing material;
- (b) Inspections performed by employees or agents of federal, state or local government solely for the purpose of determining compliance with applicable statutes; or
- (c) Visual inspections of the type described in 40 CFR Part 763.90(i) solely for the purpose of determining completion of asbestos response actions.

Management Plans - Plans, including operations and maintenance plans, which detail specific response actions appropriate for the abatement of immediate and long term asbestos hazards.

Major Fiber Release Episode - Any uncontrolled or unintentional disturbance of asbestos-containing material which produces visible debris and which:

- (a) involves the falling or dislodging of:
 1. more than three linear feet of friable asbestos-containing material on or in pipes, ducts or wires; or
 2. more than three square feet of friable asbestos-containing material on or in structures or components other than pipes, ducts or wires; or
- (b) produces an amount of friable asbestos-containing material greater than that which can be contained by a single three-foot glove bag of conventional manufacture.

Minor Fiber Release Episode - Any uncontrolled or unintentional disturbance of asbestos-containing material which produces visible debris and which:

- (a) involves the falling or dislodging of:
 1. three or fewer linear feet of friable asbestos-containing material on or in pipes, ducts or wires; or
 2. three or fewer square feet of friable asbestos-containing material on or in structures or components other than pipes, ducts or wires; and
- (b) produces an amount of friable asbestos-containing material which can be contained by a single three-foot glove bag of conventional manufacture.

NIOSH - The National Institute of Occupational Safety and Health.

NIST - The National Institute of Standards and Technology.

Non-Friable Asbestos-Containing Building Materials (Non-Friable ACBM) - Materials used in the construction of facilities or structures which contain asbestos bound by a matrix which cannot, when dry, be crumbled, pulverized, or reduced to powder by hand pressure. The class of non-friable asbestos-containing building materials typically includes, but is not limited to: asbestos cement pipe, sheathing siding and shingles; vinyl asbestos building materials, such as floor tiles; and asphaltic asbestos building materials, including asphaltic asbestos shingles and felts.

6.02: continued

Operations and Maintenance (O&M) Plan - A program of work practices designed to maintain asbestos-containing material in intact condition, ensure cleanup of asbestos fibers previously released, prevent further release by minimizing disturbance or damage to asbestos-containing material, and provide for long term surveillance of the facility with regard to renovation, maintenance, cleaning and general operations.

OSHA - The Occupational Safety and Health Administration of the United States Department of Labor.

Personal Exposure Monitoring - Air samples collected from the breathing zone of a person performing asbestos work which are analyzed according to standard protocols for the purpose of determining that person's level of exposure to airborne asbestos fibers.

Private Residence - Any facility used exclusively for residential purposes containing three or fewer living units.

Public Facility - Any facility or location to which the general public has access, including, but not limited to schools, office buildings, museums, airports, hospitals, stores and churches.

Renovation - Altering one or more components of a facility in any way.

Repair - The sealing, patching, enclosing or encapsulating of damaged asbestos-containing materials to prevent fiber release.

Responsible Person(s) - Person(s) having management control over the entity or employer. In the case of a corporation, the responsible person(s) shall be officers of the corporation and any other managing agent of such corporation. In the case of a sole proprietorship or a partnership, the responsible person(s) shall be the owners or partners and any other managing agent of such sole proprietorship or partnership.

Sampling - The process of obtaining representative portions of materials suspected of containing asbestos, including the taking of bulk portions of materials for analysis to determine composition, and the collection of air for the purposes of measuring asbestos content.

Small-Scale Asbestos Project - Any work operation involving the disturbance of:

- (a) three or fewer linear feet of friable asbestos on or in pipes, ducts or wires or
- (b) three or fewer square feet of friable asbestos on or in structures or components other than pipes, ducts or wires.

State - Commonwealth of Massachusetts.

TEM - Transmission electron microscopy.

Visible Debris - Any visually detectable particulate residue, such as dust, dirt or other extraneous material which may or may not contain asbestos.

Work Area - The area or location where asbestos abatement or asbestos-associated work is being performed, or such other areas of a facility which the Director determines may be hazardous to the health and safety of workers and the general public as a result of such asbestos work.

Work Practices - The minimum standards, procedures or actions taken or used for removal, enclosure or encapsulation of asbestos, or for renovation, demolition, maintenance or repair of facilities containing asbestos. This term also includes the minimum standards, procedures or actions taken or used by persons engaged in inspection, analysis, risk assessment or other activities relating to asbestos work.

6.03: General Requirements

- (1) Administrative License and Certification Actions. As set forth at 453 CMR 6.04, the Director may deny, suspend, revoke or refuse to renew a license or certificate issued pursuant to 453 CMR 6.05 through 6.09 or take other administrative actions against a license or certificate holder for sufficient cause.
- (2) General Requirement for Licensure of Asbestos Contractors. No person, firm, corporation or other entity shall enter into, engage in or work at the business of Asbestos Abatement unless such person, firm, corporation or other entity has been duly licensed in accordance with 453 CMR 6.05. For purposes of 453 CMR 6.00, the phrase "engage in . . . the business of Asbestos Abatement" includes, but is not limited to, advertising Asbestos Abatement services, and/or submitting bids for projects where the majority of the contract-value is represented by Asbestos Work.
- (3) Requirement for Certification of Asbestos Workers and Asbestos Supervisors. All persons who perform the functions of Asbestos Workers and Asbestos Supervisors at worksites where Asbestos Response Actions are carried out shall be certified pursuant to the applicable sections of 453 CMR 6.06.
- (4) Requirement for Certification of Asbestos Consultants. Persons who provide or work at the business of providing asbestos consultation services, including asbestos inspection, hazard assessment, management planning, project designing and project monitoring services, shall be duly certified in the appropriate consultative discipline pursuant to 453 CMR 6.07 prior to engaging in such work. For the purpose of 453 CMR 6.00, the phrase "work at the business of providing asbestos consultation services" includes, but is not limited to advertising asbestos consultation services and submitting bids for work where the majority of the contract value of the project involves asbestos consultation work.
- (5) Requirement for Certification of Providers of Asbestos Analytical Services. Persons who provide or work at the business of providing Asbestos Analytical Services shall be duly certified pursuant to 453 CMR 6.08 prior to engaging in such work and shall otherwise comply with the requirements of that section. For the purpose of 453 CMR 6.00, the phrase "work at the business of providing Asbestos Analytical Services" includes, but is not limited to, advertising Asbestos Analytical Services and submitting bids for work where the majority of the contract value of the project involves asbestos analysis work. Certified Asbestos Analytical Services shall be authorized to advertise and provide only those services for which separate approval is granted, as set forth at 453 CMR 6.08(1)(a) through (d).
- (6) Requirement for Certification of Asbestos Training Providers. Persons who provide or work at the business of providing asbestos training required by 453 CMR 6.00 shall be duly certified pursuant to 453 CMR 6.09 prior to engaging in such work, and otherwise comply with the requirements of 453 CMR 6.09. For the purpose of 453 CMR 6.00, the phrase "work at the business of providing asbestos training" includes, but is not limited to advertising asbestos training services and submitting bids for work where the majority of the contract value of the project involves asbestos training.
- (7) Requirement for Asbestos Training. All persons requiring asbestos training as a prerequisite for licensure or certification pursuant to 453 CMR 6.05, 6.06 or 6.07 or participation in Small-Scale Asbestos Projects shall be trained pursuant to 453 CMR 6.10.
- (8) Recordkeeping Requirements. All Asbestos Training Providers, Asbestos Analytical Services, Asbestos Consultants, Asbestos Contractors, and Employers of Asbestos-Associated Project Workers shall maintain records as specified at 453 CMR 6.11.
- (9) Notification Requirements. All persons or entities who carry out Asbestos Response Actions shall comply with the notification requirements of 453 CMR 6.12.

6.03: continued

(10) Requirements for the Conduct of Small-Scale Asbestos Projects and Projects Involving Non-Friable ACM.

(a) Small-Scale Asbestos Projects and Asbestos-Associated Projects. Persons, firms, corporations or other entities who carry out Small-Scale Asbestos Projects or Asbestos-Associated Projects and the owner of the facility where such work is conducted shall ensure that the requirements of 453 CMR 6.13(1) for such work are met.

(b) Projects Involving the Removal or Disturbance of Non-friable ACM. Persons, firms, corporations or other entities who carry out projects involving the removal or disturbance of non-friable ACM and the owner of the facility where such work is conducted shall ensure that the requirements of 453 CMR 6.13(2) for such work are met.

(11) Requirements for the Conduct of Asbestos Response Actions. Persons or entities in charge of carrying out an Asbestos Response Action and the owner of the facility where such Asbestos Response Action is carried out shall ensure compliance with the requirements of 453 CMR 6.14.

(12) Worker Protection. The requirements of the OSHA Asbestos Standard 29 CFR Part 1926.1101, including paragraphs (f), (h), (i) and (m), and other applicable OSHA standards shall apply to the personal protection and medical monitoring of employees other than employees of the Commonwealth or any of its political subdivisions who perform Asbestos Work, and in addition, in accordance with 453 CMR 6.11(3)(a), Asbestos Contractors shall maintain as records the results of all personal exposure monitoring, respirator fit testing and medical examinations required by 29 CFR Part 1926 and other applicable OSHA standards as a condition of licensure. The personal protection and medical monitoring of employees of the Commonwealth and its political subdivisions and other persons exempted from coverage by OSHA standards shall be in accordance with the provisions of 453 CMR 6.15. Responsibility for compliance with such worker protection requirements shall rest with the employer and the Responsible Person(s) designated thereby.

(13) Requirements for the Use of Personnel. The following shall apply to the use of personnel for Asbestos Work:

(a) Persons engaged in Asbestos Work shall only perform or be assigned to perform those tasks authorized by 453 CMR 6.00. Performance of unauthorized tasks or functions shall be cause for revocation or suspension of certificates or the Asbestos Contractor License.

(b) Persons must be at least 18 years of age to perform any Asbestos Work or to receive certification in any asbestos-related discipline pursuant to 453 CMR 6.00.

(14) Presentation of Certificates. All persons engaged in Asbestos Work for which certification is required by 453 CMR 6.00 shall keep their certification identification cards at the job site and shall present them to the Director or the Director's representative upon request.

(15) Effective Dates. 453 CMR 6.00 shall be effective June 26, 1998, except as noted at 453 CMR 6.03(15)(a) and (b).

(a) The specific initial and refresher training course requirements for certification of Asbestos Project Monitors, as set forth at 453 CMR 6.10(4)(g) shall be effective 180 days after June 26, 1998. In the interim, the initial and refresher training courses specified for Asbestos Supervisors at 453 CMR 6.10(4)(c) may be used to satisfy the applicable training requirements for certification of Asbestos Project Monitors pursuant to 453 CMR 6.07.

(b) The requirements of 453 CMR 6.08(4)(e)4. shall be effective 365 days after June 26, 1998.

6.04: Administrative License and Certification Actions/Denial, Revocation, Suspension or Refusal to Renew a License or Certificate

(1) General Administrative Proceedings. The Director may deny, revoke, suspend or refuse to renew a license or certificate issued pursuant to 453 CMR 6.00 upon finding of sufficient cause. License or certificate applicants or holders shall be advised by the Director in writing of the proposed denial, revocation, suspension or refusal to renew and the reasons therefore. Said parties shall have the right to appeal the Director's determination through an administrative hearing in accordance with the provisions of M.G.L. c. 30A and 801 CMR 1.00 by submitting a written request for such hearing within 14 calendar days of receiving notice of such administrative action.

(2) Sufficient Cause. The following shall be sufficient cause for the Director's denial, revocation, suspension or refusal to renew a license or certificate issued pursuant to 453 CMR 6.00:

- (a) False statements in the application.
- (b) Omission or falsification of documentation or information required to be submitted to the Director pursuant to any provisions of 453 CMR 6.00.
- (c) Failure to comply with the applicable provisions of M.G.L. c. 149 or 111F, 453 CMR 6.00, M.G.L. c. 111, §§ 189A through 199B, or rules or orders issued thereunder.
- (d) Failure to comply with laws, rules and regulations relating to occupational or public safety and health.
- (e) Failure to maintain records required by 453 CMR 6.11 or make them available to the Director upon request.
- (f) In the case of certified Asbestos Training Providers, or applicants for certified Asbestos Training Provider status, the following shall also constitute sufficient cause:
 1. Failure to demonstrate the ability to provide the training courses for which the applicant seeks to be certified in compliance with the requirements of 453 CMR 6.09;
 2. Failure to provide or maintain the standards of training required by 453 CMR 6.09(3); or
 3. Failure to provide minimum instruction required by 453 CMR 6.10.
- (g) In the case of certified Asbestos Consultants or applicants for certification in one or more of the consultant categories listed at 453 CMR 6.07(1)(a) through (d), the following shall also constitute sufficient cause:
 1. Gross technical errors or errors of judgment.
 2. Failure to properly execute authorized consultative activities.
- (h) In the case of certified providers of Asbestos Analytical Services, or applicants for certification as providers of Asbestos Analytical Services, the following shall also constitute sufficient cause:
 1. Failure to maintain successful participation in required proficiency testing programs.
 2. Gross technical errors or errors of judgment relating to activities covered by the certification.
 3. Loss of professional accreditation or license, where such is a required qualification.
- (i) Any other cause affecting the responsibility of the license or certificate holder which the Director determines to be of such serious and compelling nature as to warrant denial, suspension, revocation or refusal to renew.

(3) Probation. The Director may place the license or certificate holder on probation for sufficient cause for a period of three months or longer.

(4) Suspension Prior to Hearing. The Director may summarily suspend a license or certificate on an emergency basis, if, in his/her determination, the actions of the license or certificate holder show willful disregard for the health, safety or welfare of the public or workers. If a license or certificate is summarily suspended, the affected party may appeal the summary action in accordance with 453 CMR 6.04(1). If an appeal is filed, the matter shall be set down for hearing at the earliest possible time. At such hearing the Director must establish that the summary action is factually supported and that there is a substantial likelihood of sustaining the suspension in a full evidentiary hearing. The summary action shall continue against the affected party unless the hearing officer determines that the Director did not meet his/her burden under the standard specified herein. Summary suspensions may be issued in conjunction with license or certificate revocations or refusals to renew.

6.05: Licensure of Asbestos Contractors

(1) Application for Licensure. Applicants for licensure as Asbestos Contractors shall submit the following to the Director:

(a) A completed application form with attachments as prescribed by the Director, which shall, at a minimum, include the following:

1. A list of all names, acronyms or other identifiers by which the applicant does or has done business, the address(es) and telephone number(s) of the business.
2. A list of the states in which the applicant holds a current license, certification, accreditation, or other approval for Asbestos Work.
3. A list of the names and addresses of all Asbestos Abatement firms or entities in which the Responsible Persons of the applicant have or have had a financial interest or management responsibility.
4. Corporate Articles of Organization and a Certificate of Good Standing issued by the Massachusetts Secretary of State or a DBA (doing business as) certificate for the asbestos contracting firm of the applicant issued by the city or town where the business is located.
5. A certified and notarized statement by a Responsible Person of the applicant that the applicant has paid all tax obligations current and due to the Commonwealth as of the date of application.
6. Evidence that Asbestos Work to be performed by the applicant is covered under a current workers' compensation policy or self-insurance program acceptable to the Commonwealth.
7. A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgements, received by the Responsible Persons of the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
8. A statement made under the penalties of perjury by a Responsible Person of the applicant that all employees to be engaged in Asbestos Work are certified, or will be certified prior to any work being performed by them, pursuant to the requirements of 453 CMR 6.00.
9. A list of the names and addresses of all Responsible Persons and managers of the applicant who have primary responsibility for, and control over, Asbestos Work of the applicant.
10. A written respirator program evidencing compliance with 29 CFR Part 1910.134.
11. Written procedures for complying with OSHA or EPA personal monitoring requirements.
12. A written description of a medical monitoring program evidencing compliance with 453 CMR 6.15(4) or 29 CFR 1926.1101, as applicable.

(b) Asbestos training certificates or legible copies thereof, indicating that a Responsible Person or manager of the applicant listed pursuant to 453 CMR 6.05(1)(a)9. has successfully completed the applicable initial and refresher training requirements for Asbestos Supervisors specified by 453 CMR 6.10(2), 6.10(4)(c) and/or 453 CMR 6.10(5).

(c) Such other information as the Director may reasonably require.

(d) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$2,000, or any other amount established for such license pursuant to M.G.L. c. 7. § 3B. If the Director denies, revokes, suspends or refuses to renew the License for reasons specified in 453 CMR 6.04, the fee payment is not refundable.

(2) Renewal of an Asbestos Contractor License. An Asbestos Contractor license is valid for a period of one year. The Director may renew an Asbestos Contractor license upon written application for renewal by the license holder. Renewal applications should be submitted to the Department of Labor and Workforce Development no later than 30 calendar days before the expiration of the current license. The submission of a renewal application later than 30 days before the expiration of the current license may result in renewal after the expiration of the current license. Said application for renewal shall include submission of the items referenced at 453 CMR 6.05(1)(a) through (d), including a current certificate of training indicating that a Responsible Person or manager of the applicant listed pursuant to 453 CMR 6.05(1)(a)9. has successfully completed the refresher training requirements for Asbestos Supervisors specified by 453 CMR 6.10(5).

6.06: Certification of Asbestos Workers and Asbestos Supervisors

(1) Application for Certification as an Asbestos Worker. Applicants for certification as Asbestos Workers shall appear in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and submit the following:

- (a) A completed application form with attachments as prescribed by the Director.
- (b) Asbestos training certificates, or legible copies thereof, indicating that the applicant has successfully completed the applicable initial and refresher training requirements specified by 453 CMR 6.10(2), 6.10(4)(b), and/or 453 CMR 6.10(5).
- (c) A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgments, received by the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
- (d) Such other information as the Director may reasonably require.
- (e) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$25.00, or any other amount established for such certificate pursuant to M.G.L. c. 7, § 3B. If the Director denies, revokes, suspends or refuses to renew a certificate for reasons specified in 453 CMR 6.04, the fee payment is not refundable.

(2) Renewal of an Asbestos Worker Certificate. An Asbestos Worker certificate is valid for a period of one year. The Director may renew an Asbestos Worker certificate, provided the current certificate holder appears in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and makes written application for renewal. Application for renewal should be made no later than seven calendar days before the expiration of the current certificate. The submission of a renewal application later than seven days before the expiration of the current certificate may result in renewal after the expiration of the current certificate. Said application for renewal shall include submission of the items referenced at 453 CMR 6.06(1)(a) through (e), including a current certificate of refresher training specified by 453 CMR 6.10(5).

(3) Application for Certification as an Asbestos Supervisor. Applicants for certification as Asbestos Supervisors shall appear in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and submit the following:

- (a) A completed application form with attachments as prescribed by the Director.
- (b) Asbestos training certificates or legible copies thereof, indicating that the applicant has successfully completed the applicable initial and refresher training requirements specified by 453 CMR 6.10(2), 6.10(4)(c), and/or 453 CMR 6.10(5).
- (c) A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgments, received by the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
- (d) Such other information as the Director may reasonably require.
- (e) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$100.00, or any other amount established for such certificate pursuant to M.G.L. c. 7, § 3B. If the Director denies, revokes, suspends or refuses to renew a certificate for reasons specified in 453 CMR 6.04, the fee payment is not refundable.

(4) Renewal of an Asbestos Supervisor Certificate. An Asbestos Supervisor certificate is valid for a period of one year. The Director may renew an Asbestos Supervisor certificate, provided the current certificate holder appears in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and makes written application for renewal. Application for renewal should be made no later than seven calendar days before the expiration of the current certificate. The submission of a renewal application later than seven days before the expiration of the current certificate may result in renewal after the expiration of the current certificate. Said application for renewal shall include submission of the items referenced at 453 CMR 6.06(3)(a) through (e), including a current certificate of refresher training specified by 453 CMR 6.10(5).

6.07: Certification of Asbestos Consultants

(1) Scope of Certifications. Persons performing the asbestos consulting functions listed in 453 CMR 6.07(1)(a) through (d) shall be certified in the appropriate discipline prior to engaging in such work. Persons performing the work of more than one Asbestos Consultant discipline shall be separately certified, except that a person who is certified as an Asbestos Management Planner may perform the functions of an Asbestos Inspector without being separately certified.

(a) Asbestos Inspector. Certification as an Asbestos Inspector authorizes the consultant to review building records, perform visual inspections, collect samples, prepare written inventories and conduct other forms of investigation necessary to determine and document the presence and condition of known or suspect ACM in facilities. Certified Asbestos Inspectors shall apply current concepts and state-of-the-art knowledge to evaluate the conditions and accessibility of ACM and shall otherwise conduct their activities according to procedures described in current EPA guidance documents or applicable federal laws or rules and regulations.

(b) Asbestos Management Planner. Certification as an Asbestos Management Planner authorizes the consultant to utilize information developed from facility inspections to assess potential hazards of ACM, to develop O&M plans, and to select and recommend asbestos hazard control and abatement actions.

(c) Asbestos Project Designer. Certification as an Asbestos Project Designer authorizes the consultant to design Asbestos Response Actions through preparation of job specifications, bidding documents, architectural drawings and schematic representations of material locations. Except as mandated by AHERA for Asbestos Response Actions conducted in school facilities, the preparation of asbestos project designs is not required by 453 CMR 6.00. Where asbestos project designs are prepared, such preparation shall only be performed by persons certified as Asbestos Project Designers pursuant to 453 CMR 6.07.

(d) Asbestos Project Monitor. Certification as an Asbestos Project Monitor authorizes the consultant to function as the on-site representative of the facility owner or other persons, interpret project specifications or asbestos management plans and monitor and evaluate contractor or employee compliance with applicable rules, regulations, or specifications, including collection of the air samples at asbestos project sites. Certification as an Asbestos Project Monitor or in any other Asbestos Consultant discipline is not required for persons collecting only (asbestos) personal air monitoring samples.

(2) Qualifications for Certification. Asbestos Consultants shall possess the applicable prerequisites for certification listed at 453 CMR 6.07(2)(a) through (d).

(a) Asbestos Inspectors. Applicants shall have successfully completed the training requirements set forth at 453 CMR 6.10(4)(d) and shall have, at a minimum:

1. A high school diploma and a minimum of six months experience in an occupation comparable to that of asbestos inspection or two months field experience under the direct supervision of a certified Asbestos Inspector or Management Planner; or
2. A combination of education and experience equivalent to that set forth in 453 CMR 6.07(2)(a)1., as determined by the Director.

(b) Asbestos Management Planners. Applicants shall have successfully completed the training requirements set forth at 453 CMR 6.10(4)(e) and shall have, at a minimum:

1. a. An associate degree or certificate in project planning, management, environmental sciences, engineering, construction, architecture, industrial hygiene, occupational health, or a related scientific field; and
- b. Six months experience in the asbestos abatement field, including experience in asbestos management; or
2. A combination of education and experience equivalent to that set forth in 453 CMR 6.07(2)(b)1., as determined by the Director.

(c) Asbestos Project Designers. Applicants shall have successfully completed the training requirements set forth at 453 CMR 6.10(4)(f) and shall have, at a minimum:

1. A bachelor's degree in industrial hygiene, occupational health, or environmental, biological or physical science;

6.07: continued

2. Current status as a registered architect or engineer with a minimum of 12 months experience in asbestos abatement fields; or
 3. A combination of education and experience equivalent to that set forth in 453 CMR 6.07(2)(c)1. and 2., as determined by the Director.
- (d) Asbestos Project Monitors. Applicants shall have successfully completed the training requirements set forth at 453 CMR 6.10(4)(g) and shall have, at a minimum:
1. Two years of college credit or an associate or technical degree or equivalent; and
 - a. six months employment experience in the asbestos abatement field or
 - b. two months field experience under the direct supervision of a certified Asbestos Project Monitor; or
 2. A combination of education and experience equivalent to that set forth in 453 CMR 6.07(2)(d)1. as determined by the Director.
- (3) Application for Certification as an Asbestos Consultant. Applicants for certification in one or more of the consultant disciplines shall appear in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and submit the following:
- (a) A completed application form with attachments, as prescribed by the Director.
 - (b) Asbestos training certificates, or legible copies thereof, indicating that the applicant has successfully completed the applicable initial and refresher training requirements for the Asbestos Consultant discipline for which certification is sought, as set forth in 453 CMR 6.10(2), 6.10(4)(d) through (g) and/or 453 CMR 6.10(5).
 - (c) Documentation demonstrating fulfillment of the qualifications listed at 453 CMR 6.07(2)(a) through (d).
 - (d) A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgements, received by the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
 - (e) Such other information as the Director may reasonably require.
 - (f) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$300.00, or any other amount established for such certificate pursuant to M.G.L. c. 7, § 3B. A person applying for certification as an Asbestos Inspector and as an Asbestos Management Planner at the same time need pay only one \$300.00 fee. If the Director denies, revokes, suspends or refuses to renew a certificate for reasons specified in 453 CMR 6.04, the fee payment is not refundable.
- (4) Renewal of an Asbestos Consultant Certificate. An Asbestos Consultant certificate is valid for a period of one year. The Director may renew an Asbestos Consultant certificate, provided the current certificate holder appears in person at one of the Division of Occupational Safety offices listed in 453 CMR 6.19: *Appendix I*, and makes written application for renewal. Application for renewal should be made no later than seven calendar days before the expiration of the current certificate. The submission of a renewal application later than seven days before the expiration of the current certificate may result in renewal after the expiration of the current certificate. Said application for renewal shall include submission of the items referenced at 453 CMR 6.07(3)(a) through (f), including a current certificate of refresher training in the discipline for which certification is sought, as specified at 453 CMR 6.10(5).
- (5) Delivery of Services. Because of the highly diversified, technical nature of asbestos consulting, comprehensive requirements for the conduct of the work are not set forth in 453 CMR 6.00. Asbestos Consultants shall perform the functions authorized at 453 CMR 6.07(1)(a) through (d), as applicable, in accordance with the requirements of 453 CMR 6.00, applicable EPA asbestos standards and protocols, including 40 CFR Part 763, Subpart E, other applicable federal standards and in accordance with professional standards generally recognized as "state-of-the-art" by the asbestos consulting industry and asbestos professional associations, and in accordance with current practices taught by Certified Training Providers.

6.08: Certification and Other Requirements for Asbestos Analytical Services

(1) Scope of Services. Applicants for certification as providers of Asbestos Analytical Services shall receive separate approval to provide the services listed at 453 CMR 6.08(1)(a) through (d).

(a) Class A Certificate holders shall be authorized to use polarized light microscopy (PLM) for the analysis of bulk asbestos samples originating in all facilities and locations subject to the requirements of 453 CMR 6.00, including school buildings and other facilities subject to the requirements of AHERA.

(b) Class B Certificate holders shall be authorized to use polarized light microscopy (PLM) for the analysis of bulk asbestos samples originating in all facilities and locations subject to the requirements of 453 CMR 6.00, except school buildings and other facilities subject to the requirements of AHERA.

(c) Class C Certificate holders shall be authorized to use phase contrast microscopy (PCM) for the analysis of air samples originating in all facilities and locations subject to the requirements of 453 CMR 6.00, including school buildings and other facilities subject to the requirements of AHERA.

(d) Class D Certificate holders shall be authorized to use transmission electron microscopy (TEM) for the analysis of air and bulk asbestos samples originating in all facilities and locations subject to the requirements of 453 CMR 6.00, including school buildings and other facilities subject to the requirements of AHERA.

(2) Application for Certification as a Provider of Asbestos Analytical Services. Applicants for certification as providers of Asbestos Analytical Services shall submit the following to the Director:

(a) A completed application form with attachments as prescribed by the Director, which shall, at a minimum, include the following:

1. A list of all names, acronyms or other identifiers by which the applicant does or has done business, and the address(es) and telephone number(s) of the business.
2. The type(s) of approval/certification listed at 453 CMR 6.08(1)(a) through (d) for which the applicant is applying.
3. Corporate Articles of Organization and a Certificate of Good Standing issued by the Massachusetts Secretary of State or a DBA (doing business as) certificate for the Asbestos Analytical Service of the applicant issued by the city or town where the business is located.
4. A certified and notarized statement by a Responsible Person of the applicant that the applicant has paid all tax obligations current and due to the Commonwealth as of the date of application.
5. Evidence that the Asbestos Analytical Services to be performed by the applicant are covered under a current workers' compensation policy or self-insurance program acceptable to the Commonwealth.
6. A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgements, received by the Responsible Persons of the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
7. A list of the names and addresses of all persons designated as Asbestos Laboratory Supervisors of the Asbestos Analytical Service pursuant to 453 CMR 6.08(4)(a).

(b) A copy of the laboratory standard operating procedures manual for asbestos analysis used by the applicant, which shall minimally include:

1. A listing of all Responsible Persons and employees of the applicant who will be performing asbestos analysis.
2. Legible copies of certificates of training or other training records for all persons listed at 453 CMR 6.08(2)(b)1., indicating that each such person has fulfilled the applicable asbestos analytical training required by 453 CMR 6.08(4)(d).
3. Copies of all applicable analytical protocols and procedures referenced at 453 CMR 6.08(4)(f).
4. An inventory of the analytical equipment used by the applicant, with a description of associated equipment calibration and maintenance procedures and schedules.
5. A description of chain of custody procedures, including handling, storage and disposal procedures for asbestos samples.

6.08: continued

6. A description of the quality control procedures and programs utilized by the applicant.
- (c) Results indicating proficiency in the two most recent rounds of the applicable quality control program(s) required by 453 CMR 6.08(4)(e). Documentation shall be in the form of legible copies of official correspondence or certificates from the provider of the applicable quality control program. Applicants from within the Commonwealth seeking certification as Class B or Class C Asbestos Analytical Services may submit the single most recent quality control round result, but their receipt of certification and approval pursuant to 453 CMR 6.08(2) may be contingent upon the results of a laboratory inspection at the discretion of the Director.
- (d) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$350.00, or any other amount established for such certificate pursuant to M.G.L. c. 7, § 3B. If the Director denies, revokes, suspends or refuses to renew a certificate for reasons specified in 453 CMR 6.04, the fee payment is not refundable.
- (e) Such other information as the Director may reasonably require.
- (3) Renewal of an Asbestos Analytical Service Certificate. A certificate as a provider of Asbestos Analytical Services is valid for a period of one year. The Director may renew an Asbestos Analytical Service certificate upon written application for renewal by the certificate holder. Renewal applications should be submitted to the Department of Labor and Workforce Development no later than 30 calendar days before the expiration of the current certificate. The submission of a renewal application later than 30 days before the expiration of the current certificate may result in renewal after the expiration of the current certificate. Said application for renewal shall include submission of the items referenced at 453 CMR 6.08(2)(a) through (e). The Director may waive the requirement for resubmission of the information specified at 453 CMR 6.08(2)(b) where there has been no substantive change in the information submitted with a previous application, and the applicant attests to such.
- (4) Operating Requirements for Asbestos Analytical Services. Because of the highly diversified, technical nature of asbestos analysis, comprehensive requirements for the conduct of the work are not set forth in 453 CMR 6.00. Certified providers of Asbestos Analytical Services shall conduct asbestos analytical work in accordance with officially recognized methodologies and generally accepted industrial hygiene laboratory practices. Providers of Asbestos Analytical Services shall minimally adhere to the following operating requirements, as a condition of certification:
- (a) Designation of Asbestos Laboratory Supervisor. Applicants for certification as providers of Asbestos Analytical Services shall designate a qualified Asbestos Laboratory Supervisor, who shall be jointly responsible with other Responsible Persons of the certified Asbestos Analytical Service, if any, for the adherence to the applicable analytical protocols, the maintenance of proper quality control procedures and the accuracy of the analytical results.
- (b) Use of Personnel. The Asbestos Laboratory Supervisor and the Responsible Persons of the certified Asbestos Analytical Service shall ensure that no person shall perform, or be directed to perform, any asbestos analysis in the direct business interest of an Asbestos Analytical Service unless that person is a Responsible Person or an employee of said Asbestos Analytical Service.
- (c) Possession of Adequate Equipment and Supplies. Asbestos Analytical Services shall possess all equipment and supplies necessary to perform the services offered. Equipment shall be calibrated and maintained as specified by the analytical protocols used or generally accepted industrial hygiene practices.
- (d) Training. All employees and Responsible Persons of an Asbestos Analytical Service who perform any asbestos analysis shall have successfully completed appropriate training, as specified at 453 CMR 6.08(4)(d)1. through 3.:
1. Training Requirements for Class A and Class B Certificates. All employees and Responsible Persons of Class A and Class B Asbestos Analytical Services shall have successfully completed an approved course of training in the techniques and procedures for identification of asbestos in bulk samples (*e.g.* McCrone Research Institute Asbestos Bulk Analysis course, or an equivalent course acceptable to the Director).

6.08: continued

2. Training Requirements for Class C Certificates. All employees and Responsible Persons of Class C Asbestos Analytical Services shall have successfully completed the NIOSH #582 Course, "Sampling and Evaluating Airborne Asbestos" or an equivalent course acceptable to the Director.
 3. Training Requirements for Class D Certificates. All employees and Responsible Persons of Class D Asbestos Analytical Services shall have successfully completed an approved course of training in the techniques and procedures for identification of asbestos in air samples using TEM (*e.g.* McCrone Research Institute Asbestos Analysis by Transmission Electronic Microscopy course), or an equivalent course acceptable to the Director.
- (e) Required Participation in Quality Control Testing Programs. All certified Asbestos Analytical Services shall participate and maintain proficiency or accreditation in official quality control testing programs, as specified at 453 CMR 6.08(4)(e)1. through 5.:
1. Certified Class A Asbestos Analytical Services shall maintain accredited status in the National Voluntary Laboratory Accreditation Program of the NIST.
 2. Certified Class B Asbestos Analytical Services shall:
 - a. Maintain accredited status in the National Voluntary Laboratory Accreditation Program of the NIST or
 - b. Maintain proficiency in the Bulk Asbestos Quality Assurance Program of the American Industrial Hygiene Association or in an equivalent quality assurance program acceptable to the Director.
 3. Certified Class C Asbestos Analytical Services shall:
 - a. Participate and maintain proficiency in the Proficiency Analytical Testing (PAT) Program of the American Industrial Hygiene Association or
 - b. Ensure that all analysts performing such testing for said analytical service are listed in the Asbestos Analysts Registry (AAR) of the American Industrial Hygiene Association and maintain proficiency in the Asbestos Analysis Testing (AAT) Program of the American Industrial Hygiene Association.
 4. (Effective June 26, 1999) Additionally, the Asbestos Laboratory Supervisor and Responsible Persons of certified Class C Asbestos Analytical Services shall ensure that all analysts who perform field analysis of asbestos air samples using phase contrast microscopy are listed in the Asbestos Analysts Registry (AAR) of the American Industrial Hygiene Association and maintain proficiency in the Asbestos Analysis Testing (AAT) Program of the American Industrial Hygiene Association.
 5. Certified Class D Asbestos Analytical Services shall maintain accredited status in "Airborne Asbestos Fiber Analysis" in the National Voluntary Laboratory Accreditation Program (NVLAP) of the NIST.
- (f) Required Use of Official Analytical Protocols. In performing asbestos analysis, certified Asbestos Analytical Services shall use official protocols, as set forth at 453 CMR 6.08(4)(f)1. through 3.:
1. Certified Class A and Class B Asbestos Analytical Services shall use the "Interim Method for the Determination of Asbestos in Bulk Insulation Samples" found at Appendix A to Subpart F of 40 CFR Part 763 or the "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116) for the analysis of bulk asbestos samples by polarizing light microscopy.
 2. Certified Class C Asbestos Analytical Services shall use the NIOSH Method 7400 for the determination of asbestos in clearance air monitoring samples and air samples collected to assess environmental asbestos exposures. Analytical services may use either the NIOSH Method 7400 or the OSHA Reference Method (29 CFR Part 1910.1001, Appendix A, 51 FR No. 119, 22739, June 20, 1986) for the analysis of personal air monitoring samples.
 3. Certified Class D Asbestos Analytical Services shall use the "Interim Transmission Electron Microscopy Methods - Mandatory and Nonmandatory - and Mandatory Section to Determine Completion of Response Actions," referenced at 40 CFR Part 763, Appendix A, for airborne asbestos analysis by TEM.
- (g) Asbestos Analytical Services shall maintain records, as provided by 453 CMR 6.11(4).

6.09: Certification and Other Requirements for Training Providers

(1) Application for Certification as an Asbestos Training Provider. Applicants for certification as an Asbestos Training Provider shall submit the following to the Director:

(a) A completed application form with attachments as prescribed by the Director, which shall, at a minimum, include the following:

1. A list of all names, acronyms or other identifiers under which the applicant intends to conduct training and the address(es) and telephone number(s) of the business.
 2. A list of those training course(s) set forth in 453 CMR 6.10 which the applicant intends to offer.
 3. Corporate Articles of Organization and a Certificate of Good Standing issued by the Massachusetts Secretary of State or a DBA (doing business as) certificate for the Asbestos Training Provider issued by the city or town where the business is located.
 4. A certified and notarized statement by a Responsible Person of the applicant that the applicant has paid all tax obligations current and due to the Commonwealth as of the date of application.
 5. Evidence that asbestos training services to be performed by the applicant are covered under a current workers' compensation policy or self-insurance program acceptable to the Commonwealth.
 6. A list of all occupational safety and health-related citations or notices of violation, including notices of noncompliance, notices of responsibility, notices of intent to assess an administrative penalty, orders, consent orders and court judgements, received by the Responsible Persons of the applicant in the two years prior to the date of application, and the issuing agency or department and final disposition of such citation or notice.
 7. A sample agenda for each training course which the applicant intends to offer, which shows topics covered and the amount of time to be given to each topic.
 8. A copy of the training manual and all printed material to be distributed in each course.
 9. A description of the teaching methods to be employed, including audio-visual aids.
 10. A description of the hands-on training to be provided (where required), including facilities, training methods, numbers of students to be accommodated, and ratio of students to instructors.
 11. A description of the equipment that will be used in both classroom lectures and in hands-on training.
 12. A list of the names and qualifications of the persons who will provide the training in each course, including their education, training, and experience.
 13. An example of the written examination to be given in each course.
 14. A list of the tuition or other fees required.
 15. A copy of the certificate of completion to be given to participants.
 16. A list of all states and federal agencies which have certified, accredited or given other forms of approval to the applicant to provide asbestos training, including the name, address and telephone number of the person, department, or agency giving such approval, and copies of all such written approvals received.
 17. A statement made under the penalties of perjury by a Responsible Person of the applicant that the applicant will comply with the applicable requirements of 453 CMR 6.00.
- (b) Such other information as the Director may reasonably require.
- (c) A money order or certified bank check payable to the Commonwealth of Massachusetts in the amount of the entire annual fee of \$850.00, or any other amount established for such certificate pursuant to M.G.L. c. 7, § 3B. If the Director denies, revokes, suspends or refuses to renew a certificate for reasons specified in 453 CMR 6.04, the fee payment is not refundable.

6.09: continued

(2) Renewal of an Asbestos Training Provider Certificate. A certificate as an Asbestos Training Provider is valid for a period of one year. The Director may renew an Asbestos Training Provider certificate upon written application for renewal by the certificate holder. Renewal applications should be submitted to the Department of Labor and Workforce Development no later than 30 calendar days before the expiration of the current certificate. The submission of a renewal application later than 30 days before the expiration of the current certificate may result in renewal after the expiration of the current certificate. Said application for renewal shall include submission of the items referenced at 453 CMR 6.09(1)(a) through (c). The Director may waive the requirement for resubmission of information specified at 453 CMR 6.09(1)(a) where there has been no substantive change in the information submitted with a previous application, and the applicant attests to such.

(3) Requirements for Certified Training Providers. Certified Asbestos Training Providers shall perform the following as a condition of certified status:

- (a) Notify the Director, in writing, at least ten days prior to the commencement of any asbestos training course for which certification is required by 453 CMR 6.00, with the course title, location and anticipated start and end dates of said course.
- (b) Notify the Director, in writing, of any changes in the course content, training methods, facilities, *etc.*, which would alter the course of instruction from that originally submitted for certification. (Minor changes in agenda, such as guest speakers, if otherwise qualified, and course schedule, are excepted.)
- (c) Issue serially-numbered certificates to all students who successfully complete asbestos training courses. The numbered certificates shall include the name of the student and the course completed, the dates of the course and the examination, and a statement that the student passed any examination required. The certificate shall include an expiration date that is one year from the date on which the student successfully completed the course.
- (d) Maintain the training records required by 453 CMR 6.11(2).
- (e) Utilize and distribute information or training materials furnished by the Department.
- (f) Provide written course materials, oral instruction and written examinations only in language in which each student is fluent.
- (g) Provide to the Director within 30 calendar days after the conclusion of each initial and refresher training course, the title of the course, the date(s) on which the course was provided and the name, address, and Social Security number of each student who successfully completed the course.
- (h) Subsequent to reasonable notice, permit up to two representatives of the Director to attend each course and to take the written examination without cost to the Department.
- (i) Allow auditing inspections of approved training courses by the Director or his or her representative. Applicants from outside the Commonwealth shall, at the Department's option, bear the costs to the Department for one course audit per year for each course for which approval is granted pursuant to 453 CMR 6.09. Said costs shall include two-way travel and food and lodging expenses for one individual for the entire length of each course.

6.10: Training Requirements

(1) Persons Requiring Training. All persons seeking certification as Asbestos Supervisors, Asbestos Workers, Asbestos Inspectors, Asbestos Management Planners, Asbestos Project Designers and/or Asbestos Project Monitors shall have successfully completed the applicable initial and refresher training for the discipline in which they wish to be certified, as set forth at 453 CMR 6.10(2), 6.10(4)(a) through (g) and/or 453 CMR 6.10(5). All Asbestos-Associated Project Workers shall have successfully completed the applicable initial training as set forth in 453 CMR 6.10(4)(h). Only asbestos training which has been provided by a certified Asbestos Training Provider or which meets the reciprocity requirements of 453 CMR 6.10(2) shall be allowable for the purposes of 453 CMR 6.10.

6.10: continued

(2) Allowance for Prior Training Courses.

(a) Any person who has successfully completed the applicable initial and refresher training for certification as an Asbestos Worker, Asbestos Supervisor, Asbestos Inspector, Asbestos Management Planner, Asbestos Project Designer or Asbestos Project Monitor prior to the effective date of 453 CMR 6.00 shall not be required to take another initial training course to fulfill his or her training requirements for certification in that discipline pursuant to 453 CMR 6.00, provided that said training was:

1. Supplied by an EPA-approved provider of asbestos training;
2. Approved by a state asbestos licensing and/or accreditation program with applicable asbestos training requirements no less stringent than those set forth in Appendix C to Subpart E of 40 CFR Part 763; or
3. Approved by the Director; and provided that said course was substantially equivalent in length and content to the applicable asbestos training course specified at 453 CMR 6.10(4).

(b) Any person who had successfully completed Asbestos-Associated Project Worker training required by 453 CMR 6.10(4)(h) and 453 CMR 6.13(1)(a) prior to June 26, 1998, shall not be required to take another training course to fulfill his or her training requirements for participation in Asbestos-Associated Project Work or Small-Scale Asbestos Projects, provided that said training course meets one of the criteria set forth at 453 CMR 6.10(2)(a)1. through 3.. The refresher training requirements of the OSHA Asbestos Standard 29 CFR Part 1926.1101 shall also apply to the the training of Asbestos-Associated Project Workers.

(c) Where an initial or refresher training certificate has expired, the holder shall have a grace period of one year from the date of expiration of said training certificate in which to take another refresher training course in the same discipline in lieu of re-taking the applicable initial course of training.

(3) Determination of Course Equivalency. The Director shall determine whether courses and examinations are equivalent to the training and examination requirements of 453 CMR 6.00.

(4) Training Curriculum. Training courses required for licensure or certification pursuant to 453 CMR 6.05 through 6.07 or work on an Asbestos-Associated Project or a Small-Scale Asbestos Project shall be conducted by training providers certified pursuant to 453 CMR 6.09, except as provided in 453 CMR 6.10(2) and at a minimum, meet the following criteria of duration, subject matter and examination:

(a) General.

1. Courses of instruction required by 453 CMR 6.10(1) and (4) shall be specific for each of the disciplines as set forth in 453 CMR 6.10(1). The topics or subjects of instruction which a person must receive to meet the training requirements must be presented through a combination of lectures, demonstrations, and field trips or hands-on practice, as appropriate.
2. Courses requiring hands-on training must be presented in an environment suitable to permit participants to have actual experience performing tasks associated with asbestos abatement. Demonstrations not involving individual participant participation shall not substitute for hands-on training. Hands-on training sessions shall maintain a student-to-instructor ratio of not greater than 10:1. The Division of Occupational Safety recommends that lecture sections of asbestos training courses have a student to instructor ratio no higher than 25:1.
3. For purposes of 453 CMR 6.00, one training day shall consist of eight-hours of actual classroom instruction, hands-on training and field trips, or combinations thereof, including lunch and breaks.
4. Asbestos-Associated Project Worker training may be given on non-consecutive days, provided that the entire course of instruction is given within a two-week period. Asbestos training for the asbestos disciplines requiring certification pursuant to 453 CMR 6.00 shall be given on consecutive days, except as authorized by the Director in writing.
5. The Director reserves the right to administer a proficiency examination to any person applying for certification pursuant to 453 CMR 6.00.

6.10: continued

(b) Asbestos Workers. Persons seeking certification as Asbestos Workers shall successfully complete an approved four-day training course specified below or the course required under 453 CMR 6.10(4)(c). The training course shall include lectures, demonstrations, at least 14 hours of hands-on training, including respirator fit testing, course review, and a written examination consisting of 50 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address the requirements of 453 CMR 6.00 applicable to Asbestos Workers and the topics specified for Asbestos Workers in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

(c) Asbestos Supervisors. Persons seeking certification as Asbestos Supervisors shall successfully complete an approved five-day training course as specified below. The training course shall include lectures, demonstrations, at least fourteen hours of hands-on training, respirator fit testing, course review, and a written examination consisting of 100 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address the requirements of 453 CMR 6.00 applicable to Asbestos Supervisors and the topics specified for Contractors/Supervisors in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

(d) Asbestos Inspectors. Persons seeking certification as Asbestos Inspectors shall successfully complete an approved three-day training course as specified below. The training course shall include lectures, demonstrations, at least four hours of hands-on training, including respirator fit testing, course review and a written examination consisting of 50 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address the requirements of 453 CMR 6.00 applicable to Asbestos Inspectors and the topics specified for Asbestos Inspectors in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

(e) Asbestos Management Planners. Persons seeking certification as Asbestos Management Planners shall successfully complete the training program as described in 453 CMR 6.10(4)(d), plus an approved two-day management training course as specified below. The Asbestos Management Planner course shall include lectures, demonstrations, course review and a written examination consisting of 50 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address requirements of 453 CMR 6.00 applicable to Asbestos Management Planners and the topics specified for Management Planners in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

(f) Asbestos Project Designers. Persons seeking certification as Asbestos Project Designers shall successfully complete an approved three-day training course. The training course shall include lectures, demonstrations, a field trip, course review, and a written examination consisting of 100 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address the requirements of 453 CMR 6.00 applicable to Asbestos Project Designers and the topics specified for Project Designers in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

(g) Asbestos Project Monitor. Persons seeking certification as Asbestos Project Monitors shall successfully complete an approved five-day training course. The training course shall include lectures, demonstrations, at least six hours of hands-on training, a course review and a written examination consisting of 100 multiple choice questions. Successful completion of the course shall be demonstrated by achieving a score of at least 70% on the examination. The course shall adequately address the requirements of 453 CMR 6.00 applicable to Asbestos Project Monitors and the topics specified for Project Monitors in Appendix C to subpart E of 40 CFR Part 763, as set forth in 59 FR 5236-5260, February 3, 1994, which are listed in 453 CMR 6.20: *Appendix II*.

6.10: continued

(h) Asbestos-Associated Project Workers. Persons seeking designation as Asbestos-Associated Project Workers shall successfully complete an approved two-day training course. The training course for Asbestos-Associated Project Workers shall include lectures, demonstrations, and a minimum of four hours of hands-on training. An examination is not required. The course shall adequately address the following subjects:

1. Background information on asbestos.
2. Potential health effects related to asbestos exposure.
3. Recognition of damage, deterioration and delamination of asbestos material.
4. Employee personal protective equipment.
5. Personal hygiene.
6. Proper methods of handling asbestos material.
7. Relevant federal, state and local regulatory requirements.
8. Hands-on training.

(5) Refresher Training. Annual refresher training is required for Asbestos Workers, Asbestos Supervisors and all Asbestos Consultant disciplines as a condition of maintaining certification. Annual refresher training is recommended but not required for Asbestos-Associated Project Workers. Satisfactory completion of such training shall be a condition of certification renewal and evidence of satisfactory completion shall be included in the annual renewal application. Training providers shall determine successful completion of a refresher course by conducting a written examination consisting of 25 questions at the conclusion of the course. A score of 70% or higher shall be considered passing.

(a) Refresher training for all disciplines except Asbestos Inspectors shall be of one-day duration. Refresher training for Asbestos Inspectors shall be ½ day in length. Asbestos Management Planners shall attend the Asbestos Inspector refresher course plus an additional ½ day on management planning.

(b) The refresher curriculum for all disciplines shall include a review of changes in applicable state and federal laws, regulations, policies and guidelines; developments or changes in state-of-the-art procedures and equipment; and the key areas of initial training specific to each discipline.

6.11: Recordkeeping

(1) Maintenance, Submission and Retention of Records. Certified Training Providers, Asbestos Contractors, Asbestos Analytical Services, Asbestos Consultants and employers of Asbestos Associated Project Workers shall maintain the records as indicated at 453 CMR 6.11(2) through (6) and make said records available to the Director upon request. Entities whose principal place of business is outside of the Commonwealth of Massachusetts shall provide photocopies of such records or documents within ten business days of receipt of a written request from the Director. Records and documents required to be kept by 453 CMR 6.11 shall be retained for a period of 30 years from the date of project or activity completion, except that records required to be kept by 453 CMR 6.11(2) shall be kept for a period of at least 15 years. Entities or persons ceasing to do business, or relocating the principal place of business shall so notify the Director in writing within 30 days of such event. The Director, on receipt of such notification may instruct that the records be surrendered to the Department, or may specify a repository for such records. The entity or person shall comply with the Director's instructions within 60 days.

(2) Certified Training Providers. Certified Training Providers shall maintain the following records:

- (a) Copies of all written materials required to be submitted with the application for certification and course approval by 453 6.09(1).
- (b) Copies of all pre-course notifications required to be filed by 453 CMR 6.09(3)(a) with applicable course agendas.
- (c) Copies of all post-course notifications required by 453 CMR 6.09(3)(g), including the name, address, telephone number, Social Security Identification Number and final examination score of each person who completed each course.
- (d) A copy of the certificate of completion of each student passing the course.
- (e) The name, business address and telephone number of the person(s) who proctored the examinations.

6.11: continued

(3) Asbestos Contractors.

(a) Central Location. The following records and documents shall be maintained by Asbestos Contractors at the principal place of business:

1. Copies of all written materials required to be submitted for Asbestos Contractor licensure pursuant to 453 CMR 6.05.
2. Name, address, telephone number and dates of employment or affiliation of every Asbestos Worker and Supervisor employed by or included within the corporate structure of the Asbestos Contractor.
3. Copies of all asbestos training certificates required by 453 CMR 6.10 and all Asbestos Worker and Supervisor/Foreperson certifications issued by the Department pursuant to 453 CMR 6.06 for every Asbestos Worker and Supervisor/Foreperson employed by or included within the business structure of the Asbestos Contractor.
4. Copies of all notifications made by the Asbestos Contractor pursuant to 453 CMR 6.12.
5. Receipts and documentation of disposal of asbestos waste, showing dates, locations and amounts of asbestos waste disposed, including the identification of the source of the asbestos waste and the transporter (company name or driver name, if an employee of the contractor).
6. Copies of all asbestos analysis and exposure monitoring reports in the possession of the Asbestos Contractor relating to past or present Asbestos Work, including clearance air monitoring reports required by 453 CMR 6.14(5)(b).
7. Copies of all contracts awarded for Asbestos Work.
8. All records and documents required by 29 CFR 1910.134 and 1926.1101 and any other applicable federal, state or local law, regulation or ordinance.
9. Copies of all records required to be maintained on-site by 453 CMR 6.11(3)(b).

(b) On-site. The following records and documents shall be maintained by the Asbestos Contractor at the Asbestos Project worksite for the duration of the project:

1. A current copy of 453 CMR 6.00.
2. A copy of all contract, project design or technical specifications governing the project in the possession of the Asbestos Contractor.
3. A listing of each of the contractors, sub-contractors and consultants on the project.
4. A listing of every employee or person within the business structure of the contractor at the worksite and a legible copy of the Massachusetts certification card of each Asbestos Worker and each Asbestos Supervisor on site.
5. A daily sign-in/out log which includes the printed and signed name and the Massachusetts Asbestos Certification Number (where applicable) of each person who enters the Asbestos Work Area, with the times of entry and exiting.
6. Records of all on-site air monitoring pertaining to the project in the possession of the Asbestos Contractor.
7. A written respirator program which conforms to requirements of 29 CFR 1910.134(b).

(4) Certified Analytical Services. Certified Asbestos Analytical Services shall maintain the following records:

- (a) Copies of all documents required for certification pursuant to 453 CMR 6.08, including quality control results.
- (b) Records of all analyses performed, including the identity of the sender, the laboratory identification number, the date collected, the location from which the sample was collected and the analytical results.
- (c) Persons who perform on-site phase contrast analysis of clearance air monitoring samples and are required to be listed in the Asbestos Analyst Registry(AAR) of the American Industrial Hygiene Association by 453 CMR 6.08(4)(e)4. shall keep photocopies of such listing at each such work site.

6.11: continued

(5) Certified Asbestos Consultants. Certified Asbestos Consultants shall maintain all documentation pertaining to inspections, assessments, management plans, project designs sampling, project monitoring, or other asbestos consultation performed by them within the scope of each consultant discipline set forth at 453 CMR 6.07. Said records shall include an identification of the client, the dates and locations of service and the results or conclusions. Logs for completed projects shall be maintained at the consultant's principal place of business. Logs for current projects shall be kept at the asbestos project worksite.

(6) Employers of Asbestos-Associated Project Workers. Employers of Asbestos-Associated Project Workers shall maintain at the place of employment copies of each worker's Associated-Project Worker training certificate issued by a certified Asbestos Training Provider and any and all documents required to be kept by 29 CFR Part 1926.1101.

6.12: Notification of Asbestos Projects

An Asbestos Contractor or operator of an Asbestos Response Action shall notify the Director before engaging in any Asbestos Response Action which involves more than three linear feet of asbestos on or in pipes, ducts or wires or more than three square feet of asbestos on or in structures or components other than pipes, ducts or wires. Notification shall be on forms jointly prescribed by the Director and the Department of Environmental Protection. Notification shall be postmarked, hand-delivered or Faxed at least ten days before the project start date, or, in the case of an Emergency Project, within one working day after the project start date. Fulfillment of the notification requirements of 453 CMR 6.12 shall not relieve the Asbestos Contractor, operator of the project or facility owner of the responsibility for making written notification as may be required by any other municipality, agency of the Commonwealth, or any agency of the federal government.

6.13: Work Practices and other Requirements for Small-Scale Asbestos Projects, Asbestos-Associated Projects and Work Operations Involving Non-Friable ACM

- (1) Requirements for Small-Scale Asbestos Projects and Asbestos-Associated Projects.
- (a) Exemption from Licensing and Certification Requirements; Requirements for Training. Persons or entities who carry out Small-Scale Asbestos Projects need not be licensed as Asbestos Contractors or certified as Asbestos Workers or Asbestos Supervisors, provided that all persons participating in the work have received the Asbestos Associated Project Worker training specified by 453 CMR 6.10(4)(h), the Asbestos Worker training specified at 453 CMR 6.10(4)(c) or the Asbestos Supervisor training specified at 453 CMR 6.10(4)(c) and provided that the work is conducted in accordance with the applicable provisions of 453 CMR 6.13.
- (b) Personal Protection. All employees who perform Small-Scale Asbestos Projects shall be provided with personal protection in accordance with the requirements of 453 CMR 6.03(12).
- (c) Work Practice Requirements. Persons or entities carrying out, or having supervisory authority over, Small-Scale Asbestos Projects or Asbestos-Associated Projects shall ensure that the work practice requirements of 453 CMR 6.13(1)(c) are met.
1. All persons not directly involved in the work shall be excluded from the Work Area. Physical barriers shall be used as necessary to limit access to the Work Area for the duration of the project.
 2. Dust-tight barriers shall be constructed to insure that asbestos fibers released during work activities are contained within the Work Area. Glove bags and prefabricated mini-enclosures are permitted in place of constructed barriers.
 3. Before any ACM is disturbed it shall be wet with Amended Water, and it shall be kept wet throughout the work operation until properly containerized.
 4. Any friable ACM exposed as a result of the work operation shall be suitably enclosed or encapsulated as specified by 453 CMR 6.14(4)(d)4. or 6.14(4)(d)5.
 5. HEPA vacuuming or wet cleaning shall be used to decontaminate the Work Area and any equipment used in the work operation until all surfaces are free of visible debris.

6.13: continued

6. Asbestos-containing waste shall be containerized, transported, and disposed as specified at 453 CMR 6.14(4)(d)2. and 6.14(4)(h).
- (d) Clearance Inspections. All surfaces within the Work Area shall be visually inspected for dust, debris and other particulate residue by the owner of the facility or by persons who have been trained pursuant to 453 CMR 6.10(4)(b), (c), (g) or (h). The Work Area shall be repeatedly cleaned by the Contractor or other entity carrying out the work operation until the no visible debris criterion is achieved.
- (2) Requirements for Asbestos Projects Involving Non-Friable ACBM.
- (a) Applicability of Standards.
1. The requirements of 453 CMR 6.13(1) for Small-Scale Asbestos Projects shall apply to work operations which involve the sanding, grinding, cutting (by sawing), chipping or abrading of three or fewer linear feet of Category I or Category II non-friable ACBM, where the material covers, or is contained within, pipes, ducts or wires, or three or fewer square feet of Category I or Category II non-friable ACBM, where the material covers, or is contained within, structures other than pipes, ducts or wires.
 2. The requirements of 453 CMR 6.14 for Asbestos Response Actions shall apply to work operations which involve the sanding, grinding, cutting (by sawing), chipping or abrading of greater than three linear feet of Category I or Category II non-friable ACBM, where the material covers, or is contained within, pipes, ducts or wires, or greater than three square feet of Category I or Category II non-friable ACBM, where the material covers, or is contained within, structures other than pipes, ducts or wires.
 3. The requirements of 453 CMR 6.13(1) for Small-Scale Asbestos Projects shall apply to work operations which involve the breaking, shearing, or slicing of three or fewer linear/square feet of Category II non-friable ACBM, where the work operation results in the production of asbestos dust or the material becoming friable.
 4. The requirements of 453 CMR 6.14 for Asbestos Response Actions shall apply to work operations which involve the breaking, shearing, or slicing of greater than three linear/square feet of Category II non-friable ACBM, where the work operation results in the production of asbestos dust or the material becoming friable.
 5. Work operations which involve the breaking, shearing, or slicing of Category I or Category II non-friable ACBM shall not be subject to the requirements of 453 CMR 6.00, where such work does not result in the production of asbestos dust or the material becoming friable.
- (b) Disposal Requirements. Asbestos debris shall be disposed in accordance with 310 CMR 7.00 and 19.00 and the EPA National Emission Standard for Asbestos (NESHAP) as contained in 40 CFR Part 61, Subpart M and other applicable state and federal standards.

6.14: Work Practices and Other Requirements for Asbestos Response Actions

- (1) Required Use of Licensed Asbestos Contractors. Except as allowed by 453 CMR 6.14(1)(a), only Asbestos Contractors licensed pursuant to 453 CMR 6.03(2) and 6.05 shall carry out Asbestos Response Actions.
- (a) Exception to Licensing Requirement for Entities Conducting Response Actions in their Own Facilities. Persons, firms, corporations or other entities who carry out Asbestos Response Actions at their own property or usual place of business or employment using their own regular employees or Responsible Persons need not be licensed as Asbestos Contractors, provided that the requirements of 453 CMR 6.14(2) and (3) are met, and the work is otherwise conducted in accordance with the applicable requirements of 453 CMR 6.00.
- (2) Requirement for On-Site Supervisor. The Responsible Persons of the licensed Asbestos Contractor or other entity carrying out an Asbestos Response Action shall ensure that a certified Asbestos Supervisor who is an employee or Responsible Person of said Asbestos Contractor or entity is present at the worksite and in control of the work at all times when work is in progress.

6.14: continued

(3) Requirement for Use of Certified Asbestos Workers. The Responsible Persons of the licensed Asbestos Contractor or other entity carrying out an Asbestos Response Action shall ensure that all persons who perform the functions of Asbestos Workers in the Work Area are Responsible Persons or employees of said Asbestos Contractor or entity and that said persons are certified pursuant to 453 CMR 6.03(3).

(4) Required Work Practices. Asbestos Contractors, Asbestos Supervisors and others carrying out, or having supervisory authority over, Asbestos Response Actions shall ensure that the work practice requirements of 453 CMR 6.14(4) are met.

(a) Work Area Preparation.

1. Exclusion of Persons from the Work Area. All persons not directly involved in the work operation shall be excluded from the Work Area.

2. Sign In/Out Log. The Asbestos Contractor or other entity carrying out an Asbestos Response Action shall ensure that each person entering or leaving the Work Area individually completes the appropriate entries in the sign-in/out log referenced at 453 CMR 6.11(3)(b)5., including printed name, signature, Massachusetts Certification Number, where applicable, and the time of each entry or exiting.

2. Posting of Warning Signs. Warning signs meeting the specifications set forth in 29 CFR Part 1926.1101 (k)(6)(i) shall be posted at all approaches to the Work Area. Signs shall be posted a sufficient distance from the Work Area to permit a person to read the sign(s) and take precautionary measures to avoid exposure to asbestos.

3. Shutdown of HVAC Systems. The facility heating, ventilation and air-conditioning (HVAC) systems of the Work Area shall be shut down, locked out and isolated.

4. Removal of Moveable Objects. All moveable objects shall be removed from the Work Area. Items to be reused which may have been previously contaminated with asbestos shall be decontaminated by HEPA vacuuming and/or wet cleaning prior to their being removed from the Work Area. All other contaminated items which are not to be reused shall be disposed as asbestos waste.

5. Covering of Non-Moveable Objects. All non-moveable or fixed objects remaining within the Work Area shall be wrapped or covered with six mil thick (minimum) plastic sheeting. Plastic sheet coverings shall be completely sealed with duct tape or equivalent.

6. Isolation of Work Area. The Work Area shall be isolated by sealing all openings, including but not limited to, windows, doors, ventilation openings, drains, grilles, and grates with six mil thick (minimum) plastic sheeting and duct tape or the equivalent. For Asbestos Response Actions performed in Public Facilities, large openings such as open doorways, elevator doors, and passageways shall be first sealed with solid construction, such as plywood over studding, which shall constitute the outermost boundary of the asbestos Work Area. All cracks, seams and openings in such solid construction shall be caulked or otherwise sealed, so as to prevent the movement of asbestos fibers out of the Work Area.

7. Covering of Floor and Wall Surfaces. Except as allowed by 453 CMR 6.14(4)(a)7.a. through c., floor and wall surfaces shall be covered with plastic sheeting. All seams and joints shall be sealed with duct tape or equivalent. Floor covering shall consist of at least two layers of six mil plastic sheeting, with the edges up-turned to cover at least the bottom 12 inches of the adjoining wall(s). Wall covering shall consist of a minimum of two layers of four mil plastic sheeting. Wall covering shall extend from ceiling to floor and overlap the up-turned floor coverings without protruding onto the floor. Duct tape shall be used to seal the seams in the plastic sheeting at the wall-to-floor joints.

a. Exception to Covering Requirement Where Surfaces Are Impervious. Compliance with 453 CMR 6.14(4)(a)7. is optional where floors and walls are covered by ceramic tile or other impervious materials that are free from holes, drains, cracks, fissures or other openings and which may be thoroughly decontaminated by washing at the conclusion of the work, provided that such action does not result in the passage of asbestos fibers from the Work Area.

b. Exception to Covering Requirement For Abatement Surfaces. Compliance with 453 CMR 6.14(4)(a)7. is not required for those floor and wall surfaces from which asbestos coverings are removed.

6.14: continued

- c. Exception to Wall Surface Covering Requirement Where Glovebags are Used. Covering of wall surfaces is optional for Asbestos Response Actions where Glovebags are used as the sole means of removal or repair. Where Glovebags are used, the floor of the Work Area shall be covered with a minimum of one layer of six mil-thick plastic sheeting.
8. GFCI Protection. All sources of electric power for the Work Area shall be ground fault circuit interrupter (GFCI) protected.
- (b) Use of Decontamination Facilities.
1. Requirement for Use. Except as allowed by 453 CMR 6.14(4)(b)2., Asbestos Contractors and others carrying out Asbestos Response Actions shall supply and ensure the use of a three-compartment decontamination facility, as prescribed by 29 CFR Part 1926.1101(j)(1). Except as may be required during emergencies which endanger life or health, the decontamination facility shall be the sole means through which the isolated work space is accessed while work is in progress.
 2. Exception to Decontamination System Requirement for Work Less Than 25 Linear/Ten Square Feet. A change room may be used in lieu of the three-compartment decontamination facility specified by 453 CMR 6.14(4)(b)1. on projects which involve the disturbance of less than 25 linear feet of asbestos on or in pipes, ducts or wires, or less than ten square feet of asbestos on or in structures or components other than pipes, ducts or wires. Where a change room is used it shall be constructed and operated in accordance with OSHA Asbestos Regulations 29 CFR Part 1926.1101(j)(2).
 3. Warm Water Required. Warm water shall be supplied to the showers of the decontamination facility required by 453 CMR 6.14(4)(b)1.
 4. Decontamination of Personnel Required. No employees shall leave the Work Area without first decontaminating their persons by showering, wet washing or HEPA vacuuming to remove all asbestos debris.
 5. Location of Decontamination Facilities. Where feasible, decontamination facilities shall be contiguous with the Work Area. Where such location is not feasible, a remote decontamination facility shall be sited as closely as possible to the Work Area. Persons using such a remotely-sited decontamination facility shall remove visible debris from their persons by HEPA vacuuming prior to donning clean disposable coveralls while still in the Work Area, and then proceed directly to the remote decontamination system to shower and change clothes.
 6. Equipment Decontamination. No equipment, supplies, or materials (except properly containerized waste material) shall be removed from an asbestos Work Area unless such equipment, supplies or materials have been thoroughly cleaned free of asbestos debris. Where decontamination is not feasible, such materials shall be wrapped in a minimum of two layers of six mil polyethylene sheeting with all joints, seams and overlaps sealed with tape or containerized in a metal, plastic or fiber drum with a locking lid. Said wrapped equipment, supplies or materials shall be labeled as being asbestos-contaminated prior to removal from the Work Area. HEPA vacuums shall be emptied of contents prior to removal from the Work Area. Air filtration devices shall have used pre-filters removed and replaced with fresh filters prior to removal from the Work Area. Used HEPA filters and prefilters shall be disposed of as asbestos waste.

6.14: continued

(c) Requirement For Work Area Ventilation System. Except as allowed by 453 CMR 6.14(4)(c)1. and 2., a HEPA-filtered Work Area ventilation system shall be used to maintain a reduced atmospheric pressure of at least -0.02 column inches of water pressure differential within the contained Work Area. The system shall be in operation at all times from the commencement of the asbestos project until the requirements of 453 CMR 6.14(5)(b) have been met. The ventilation equipment utilized shall be of sufficient capacity to provide a minimum of four air changes per hour. Ventilation units shall be operated in accordance with Appendix J of EPA Guidance Document EPA 560/5-85-024) and 29 CFR Part 1926.1101(g)(5)(i). Make-up air entering the Work Area shall pass through the decontamination system whenever possible. Exhaust air shall be HEPA-filtered before being discharged outside of the Work Area. Exhaust air tubes or ducts associated with the Work Area ventilation system shall be free of leaks. In all cases where feasible exhaust air shall be discharged to the outside of the building. If access to the outside is not available, exhaust air shall be discharged to an area within the building, but in no case shall exhaust air be discharged into occupied areas of the building or into areas of the building which contain exposed or damaged asbestos. When exhaust air is discharged to the interior of a building, the outflow shall be sampled and analyzed at least once per day per machine using sampling and analysis methods prescribed by the NIOSH Analytical Method 7400 referenced at 40 CFR Part 763, Appendix A. If at any time fiber levels in the exhausted air exceed 0.01 fibers/cc the work operation shall stop immediately, and the corresponding ventilation unit(s) shall be shut off and repaired or replaced before the Asbestos Response Action is resumed.

1. Exception to Work Area Ventilation System Requirement for Work Less than 25 Linear/Ten Square Feet. Compliance with 453 CMR 6.14(4)(c) is optional for Asbestos Response Actions which involve the removal, encapsulation or enclosure of 25 or fewer linear feet of asbestos on or in pipes, ducts or wires or ten or fewer square feet of asbestos on or in structures or components other than pipes, ducts or wires.
 2. Exception to Work Area Ventilation System Requirement where Glovebags are Used. Compliance with 453 CMR 6.14(4)(c) is optional for Asbestos Response Actions where Glovebags are used as the sole means of removal or repair.
- (d) Work Procedures.
1. Wetting of Asbestos. Prior to removal, ACM shall be thoroughly wetted with Amended Water. Water shall not be applied in amounts that will cause run-off or leakage of the water from the Work Area. Once removed, ACM shall be kept wet until containerized pursuant to 453 CMR 6.14(4)(d)2.
 2. Containerization of Asbestos. Removed ACM and asbestos-contaminated debris within the Work Area shall be promptly cleaned up and containerized. Containerized ACM shall be removed from the Work Area at least once each working shift. Waste not containing components with sharp edges shall be containerized in double-thickness plastic bags (six mil minimum thickness each bag) or in metal, plastic or fiber drums with locking lids. ACM with sharp-edged components shall be contained in metal, plastic or fiber drums with locking lids. Large components removed intact shall be wrapped in a minimum of two layers of six mil polyethylene sheeting with all joints and seams sealed with duct tape, and labeled as ACM prior to removal from the contained Work Area.
 3. Material Deposition. ACM shall not be dropped or thrown from heights greater than 15 feet. Materials that must be lowered from greater than 15 feet must be transported through a dust-tight chute, or containerized prior to lowering to the ground or floor.
 4. Enclosure. Where friable ACM is enclosed during an Asbestos Response Action, the following provisions shall also apply:
 - a. Enclosures over pipes, ducts, tanks, boilers or other objects shall be labeled as containing ACM and identified on building records.
 - b. Enclosure systems shall be constructed to be dust tight.
 5. Encapsulation. Where friable ACM is encapsulated during an Asbestos Response Action, encapsulant shall not be applied to severely damaged or deteriorating ACM.

6.14: continued

6. Demolition. The notification provisions 453 CMR 6.12 and the provisions of 453 CMR 6.14 shall apply to any planned demolition of any facility containing ACM. Such work must also be performed in conformance with Massachusetts Department of Environmental Protection regulations, 310 CMR 7.00, 18.00 and 19.00 and the requirements of the EPA National Emission Standard for Asbestos (NESHAP), as contained in 40 CFR Part 61, Subpart M.
7. Enclosure or Encapsulation of Exposed ACM. Any friable ACM that has been exposed as a result of an Asbestos Response Action shall be suitably enclosed or encapsulated in accordance with 453 CMR 6.14(4)(d)4. and/or 6.14(4)(d)5.
- (e) Specific Work Practice Requirements for Glove Bag Operations. Asbestos Contractors and others having supervisory authority over Asbestos Response Actions involving glove bag use shall ensure that the following work practice requirements are met:
1. Glove bags shall be installed so as to form an airtight covering over the structure to which they are applied. Any friable ACM in the immediate area of glove bag attachment shall be wrapped and sealed in two layers of six mil plastic sheeting or otherwise rendered intact prior to glovebag installation. All openings in the glove bag shall be sealed against leakage with duct tape or equivalent material.
 2. ACM shall be wet with Amended Water prior to its removal and maintained in a wet condition inside the glove bag.
 3. Any ACM that has been exposed as result of the glove bag operation shall be suitably encapsulated or enclosed so as to prevent the leakage of asbestos fibers prior to the removal of the glove bag.
 4. All surfaces from which ACM has been removed inside the glove bag and the upper portions of the glove bag itself shall be cleaned free of visible debris prior to removal of the glovebag.
 5. Debris shall be isolated in the bottom of the glove bag by twisting the bag so as to form a closure in the middle. This closure shall then be taped around with duct tape or equivalent material. Air in the glove bag shall be exhausted with a HEPA vacuum cleaner prior to its removal.
 6. Following removal from the structure the glove bag and its contents shall be containerized in accordance with 453 CMR 6.14(4)(d)2. and disposed of in accordance with 453 CMR 6.14(4)(h).
- (f) Clean-up. Following an Asbestos Response Action, the Asbestos Contractor or entity performing the work shall decontaminate all contaminated surfaces within the Work Area using HEPA vacuuming and/or wet cleaning techniques. All equipment and materials used and all surfaces from which ACM has been removed shall be decontaminated. An inch of soil shall be removed from dirt floors and disposed of as asbestos waste. All cleanup materials shall be disposed of as asbestos waste. Clean-up shall be to the level of no visible debris.
- (g) Clearance Monitoring. Following the cleanup required by 453 CMR 6.14(4)(f), the facility owner, Asbestos Contractor or entity conducting the Asbestos Response Action, and/or the Asbestos Project Monitor employed to oversee the work operation shall ensure that the clearance monitoring requirements of 453 CMR 6.14(5) are met. Until these conditions are achieved all Work Area barriers shall remain in place, Work Area ventilation systems (if required) will remain in operation, respirators and other personal protective equipment shall be worn and all other work practice controls, as required by 453 CMR 6.14(4) shall remain in effect.
- (h) Disposal Requirements.
1. Waste. Any ACM removed from a facility must be handled and disposed of as an asbestos waste in conformance with EPA NESHAPS Regulations at 40 CFR Part 61 and Massachusetts Department of Environmental Protection (DEP) Regulations 310 CMR 7.00, 18.00 and 19.00.
 2. Transport. Only asbestos waste which has been properly containerized pursuant to 453 CMR 6.14(4)(d)2. shall be transported from the point of generation. Transport shall be in covered vehicles or locked containers. Transportation of asbestos waste shall be in conformance with EPA NESHAP Regulations at 40 CFR Part 61 and applicable standards of the US Department of Transportation, OSHA and the Massachusetts Department of Environmental Protection.

6.14: continued

(5) Clearance Monitoring Procedures. The clearance monitoring procedures specified by 453 CMR 6.14(5)(a) and (b) shall be performed only by a certified Asbestos Project Monitor who is not an employee or Responsible Person of the Asbestos Contractor or entity which conducted the work. The Asbestos Contractor shall not subcontract with an Asbestos Project Monitor to perform the visual inspection required by 453 CMR 6.14(5)(a) or the clearance air monitoring required by 453 CMR 6.14(5)(b) for an Asbestos Response Action conducted in a facility subject to the requirements of AHERA.

(a) Visual Inspections. A certified Asbestos Project Monitor shall inspect all surfaces within the Work Area for dust, debris and other particulate residue. Should any Visible Debris be found in the Work Area, it shall be repeatedly cleaned by the Asbestos Contractor or entity performing the work in accordance with 453 CMR 6.14(4)(f) until the no visible debris criterion is achieved. Where clearance air monitoring is required by 453 CMR 6.14(5)(b), the achievement of the no visible debris criterion shall precede the collection of clearance air monitoring samples.

(b) Clearance Air Monitoring. The clearance air monitoring requirements of 453 CMR 6.14(5)(b) shall be met for all Asbestos Response Actions except those conducted in facilities not subject to the requirements of AHERA where the Glove Bag is used as the sole means of removal or repair.

1. Clearance Air Monitoring Requirements for Larger Asbestos Response Actions Conducted in School Facilities Subject to AHERA. For Asbestos Response Actions conducted in school facilities subject to AHERA which involve the removal, encapsulation or enclosure of greater than 160 square feet or 260 linear feet of friable ACM, clearance air monitoring samples shall be collected and analyzed by transmission electron microscopy (TEM) as prescribed by Appendix A to Subpart E of 40 CFR part 763.

a. In addition to adhering to the above, the certified Asbestos Project Monitor shall use a rotameter or other appropriate flow measuring device, the calibration of which is traceable to a primary standard, to measure the air flow in the sampling train immediately prior to and immediately following the collection of the clearance air monitoring samples.

b. Air samples shall be collected using the aggressive sampling methods described in Appendix A of 40 CFR Part 763, Subpart E.

c. The analysis of all clearance air monitoring samples collected pursuant to the requirements of 453 CMR 6.14(5)(b)1. shall be analyzed by Asbestos Analytical Services certified and approved pursuant to 453 CMR 6.08.

d. Where clearance air monitoring samples are collected and analyzed pursuant to the requirements of 453 CMR 6.14(5)(b)1. an Asbestos Response Action shall be considered complete when the average concentration of asbestos in five air samples collected within the work area and analyzed by the TEM protocol described in Appendix A of 40 CFR Part 763, Subpart E, is not statistically different, as determined through application of the Z-test calculation found in that Appendix A, from the average asbestos concentration of five air samples collected at the same time outside the work area and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in the same Appendix A of Subpart E, of 70 structures per square millimeter.

e. An action may also be considered complete if the volume of air drawn for each of the five samples collected within the work area is equal to or greater than 1,199 L of air for a 25 mm filter or equal to or greater than 2,799 L of air for a 37 mm filter, and the average concentration of asbestos as analyzed by the TEM method in Appendix A of 40 CFR Part 763, Subpart E, for the five air samples does not equal the filter background level of 70 structures per square millimeter.

f. Should the work area fail the clearance air testing requirements of 453 CMR 6.14(5)(b)1.d. or e., as applicable, it shall be repeatedly cleaned by the Asbestos Contractor or other entity performing the work as prescribed by 453 CMR 6.14(4)(f) until the requirements of 453 CMR 6.14(5)(b)1.d. or e. are met.

6.14: continued

2. Clearance Air Monitoring Requirements for Smaller Asbestos Response Actions Conducted in School Facilities and Asbestos Response Actions of All Sizes Conducted in Non-School Facilities. For Asbestos Response Actions conducted in school facilities subject to AHERA which involve the removal, encapsulation or enclosure of 160 square feet (or less) or 260 linear feet (or less) of ACM, and for all Asbestos Response Actions conducted in all non-school facilities, clearance monitoring samples shall be collected and analyzed using either: (1) the transmission electron microscopy (TEM) method prescribed by 453 CMR 6.14(5)(b)1. or (2) the phase contrast microscopy method, NIOSH Analytical Method 7400. Where the TEM method of analysis is elected, the sampling, analysis, and clearance level requirements shall be as prescribed at 453 CMR 6.14(5)(b)1. and Appendix A to Subpart E of 40 CFR Part 763. Where the phase contrast microscopy method, NIOSH Method 7400, is used, clearance air monitoring samples shall be collected and analyzed as prescribed by the NIOSH 7400 Method and 453 CMR 6.14(5)(b)2.a. through d.

- a. In addition to adhering to the above, the certified Asbestos Project Monitor shall use a rotameter or other appropriate flow measuring device, the calibration of which is traceable to a primary standard, to measure the air flow in the sampling train immediately prior to and immediately following the collection of the clearance air monitoring samples.
- b. Air samples shall be collected using the aggressive sampling methods described in Appendix A of 40 CFR Part 763, Subpart E.
- c. For facilities subject to the requirements of AHERA at least five samples, or one sample per room, whichever is greater, shall be collected and analyzed. For non-AHERA facilities at least one sample for each 500 linear/1000 square feet of asbestos or portion thereof, or one sample per room, whichever is greater, shall be collected and analyzed. The collection and analysis of all samples shall be in accordance with the NIOSH 7400 Method.
- d. Where clearance air monitoring samples are collected and analyzed using phase contrast microscopy pursuant to this subsection, an Asbestos Response Action shall be considered complete when the concentration of asbestos in each of the air samples collected inside the contained work space is less than or equal to 0.010 fibers per cubic centimeter of air.
- e. Should the work area fail the clearance air testing requirements of this subsection, it shall be repeatedly cleaned by the Asbestos Contractor or other entity performing the work as prescribed by 453 CMR 6.14(4)(f) until the requirements of 453 CMR 6.14(5)(b)2.d. are met.
- f. All analyses of clearance air monitoring samples by phase contrast microscopy pursuant to 453 CMR 6.14(5)(b)2. shall be performed by an Asbestos Analytical Service certified and approved pursuant to 453 CMR 6.08(1)(c).

6.15: Worker Protection Requirements

- (1) Personal Exposure Monitoring. The employer shall conduct personal exposure monitoring on all employees involved in asbestos projects in accordance with OSHA Asbestos Regulations at 29 CFR Part 1926.1101 or EPA Asbestos Regulations at 40 CFR Part 763, Subpart G, as applicable.
- (2) Respiratory Protection.
 - (a) The employer shall provide respiratory protection as specified at 29 CFR Part 1926.1101(h).
 - (b) Where respirators are used, a supply of charged replacement batteries, HEPA filters and flow test meters shall be available in the clean room for use with powered air-purifying respirators.
 - (c) Person(s) performing glove bag work and cleanup of Minor Fiber Release Episodes shall wear a half mask dual-cartridge HEPA-filtered respirator as the minimum level of respiratory protection.
 - (d) When negative air pressure respirators are used they shall be properly fit tested in accordance with OSHA Asbestos Regulations 29 CFR Part 1926.1101 using protocols detailed in Appendix C of that document.

6.15: continued

(3) Protective Clothing and Equipment.

(a) The employer shall provide all employees involved in asbestos projects with full body disposable clothing, including head, body, and foot coverings consisting of material impenetrable by asbestos fibers, and equipment as required by OSHA Asbestos Regulations at 29 CFR Part 1926.1101 or EPA Asbestos Regulations at 40 CFR, Part 763, Subpart G, as applicable.

(b) Non-skid footwear shall be provided to employees where slipping hazards exist. Disposable protective clothing shall be adequately sealed to the footwear to prevent contamination.

(c) Employees shall be provided with eye protection, gloves and hard hats, as required.

(4) Medical Monitoring. The employer shall provide employees engaged in asbestos projects with the medical monitoring specified by OSHA Asbestos Regulations at 29 CFR Part 1926.1101(m). Physical examinations shall be given by a board eligible/certified occupational health physician or by a licensed physician with known expertise in occupational health. Persons other than licensed physicians who administer the pulmonary function testing shall have completed a training course in spirometry sponsored by an appropriate academic or professional institution. Roentgenograms shall be interpreted and classified only by a B-reader.

6.16: Cease and Desist Orders

(1) General. The Director, upon determination that there is a violation of any work place standard which compromises the protection of the general public or the occupational health and safety of workers, or of any standard or requirement for licensure, may order any worksite to be closed by way of the issuance of a cease and desist order enforceable in the appropriate courts of the Commonwealth. For purposes of such cease and desist orders, the worksite may include the area where asbestos-related work is being performed and other areas of the facility which the Director determines may be hazardous to the health and safety of workers and the general public as a result of such asbestos work.

(2) Form and Content of Order. Cease and Desist Orders shall be in writing and shall, at a minimum, contain the following:

(a) A description of the premises or work area to which the order applies;

(b) Violations serving as the basis for issuing the order; and

(c) Any conditions that must be met or remedial action to be taken before the order can be lifted.

(3) Issuance of Cease and Desist Orders. A cease and desist order shall be effective immediately upon delivery in hand or by certified mail to any Responsible Person or agent of the contractor or entity performing the work. A copy of the order shall also be delivered in hand or by certified mail to the facility owner or his or her agent. A party objecting to such order must comply with such order but may make a written request for a hearing pursuant to M.G.L. c. 30A within ten days following service of the order.

(4) Posting of the Work Site. At the time the cease and desist order becomes effective, the Director shall cause the work site to be conspicuously posted, such posting to contain the content of the cease and desist order and any other information the Director determines necessary to secure the work site and to adequately warn of hazards. Notices shall remain posted until the order is lifted.

(5) Access to Closed Work Site. Access to the work site closed by a cease and desist order shall be restricted to persons authorized by the Director.

6.17: Responsibility For Compliance; Penalties

(1) Any person, firm, corporation, or other entity performing work subject to the requirements of 453 CMR 6.00, including, without limitation, Asbestos Contractors, Asbestos Workers, and Asbestos Supervisors, shall be responsible for compliance with the provisions thereof.

6.17: continued

(2) Any person, firm, corporation, or other entity who or which violates the provisions of 453 CMR 6.00 shall be subject to the administrative sanctions specified herein and any civil penalty allowed by the laws of the Commonwealth, and, pursuant to M.G.L. c.149, § 6F, may be punished by a fine of not less than \$500 and not more than \$1500 for each offense.

6.18: Severability

If any provision of 453 CMR 6.00 shall be held inconsistent with the laws of the Commonwealth, or held unconstitutional, either on its face, or as applied, the inconsistency or unconstitutionality shall not affect the remaining provisions.

6.19: The Removal, Containment or Encapsulation of Asbestos Appendix I

THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF LABOR & WORKFORCE DEVELOPMENT
DIVISION OF OCCUPATIONAL SAFETY
MAIN AND DISTRICT OFFICES

BOSTON OFFICE
100 CAMBRIDGE ST., 11TH FLR
BOSTON, MA 02202
TEL: (617) 727-7047
TEL: (617) 727-3452
FAX: (617) 727-7568

HAVERHILL OFFICE
4 SUMMER STREET
HAVERHILL, MA 01830
TEL: (978) 372-9797
FAX: (978) 372-9998

NEW BEDFORD OFFICE
181 HILLMAN STREET
BLDG. 2, 2ND. FLOOR
NEW BEDFORD, MA 02740
TEL: (508) 984-7718
FAX: (508) 984-3562

PITTSFIELD OFFICE
333 EAST STREET
PITTSFIELD, MA 01201
TEL: (413) 448-8746
FAX: (413) 784-1163

SPRINGFIELD OFFICE
165 LIBERTY STREET
SPRINGFIELD, MA 01102
TEL: (413) 747-7192
FAX: (413) 784-1144

WEST NEWTON OFFICE
1001 WATERTOWN STREET
WEST NEWTON, MA 02165
TEL: (617) 969-7177
FAX: (617) 727-4581

Note: Licensing days and times for all of the Division's Offices may be obtained by calling 1-800-425-0004, within Massachusetts, or 1-617-727-7047.

6.20: The Removal, Containment or Encapsulation of Asbestos Appendix II

453 CMR 6.20: *Appendix II* describes the course content for asbestos training as set forth at 40 CFR Part 763, Appendix C to Subpart E - Asbestos Model Accreditation Plan.

1. Workers.

...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 cancer 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 face piece-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.

...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.

6.20: continued

- (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 face piece-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, enclosures, 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 analysis 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:
1. Requirements of TSCA Title II.
 2. National Emissions Standards for Hazardous Air Pollutants (40 CFR part 61), 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. OSHA Asbestos Construction Standard (29 CFR 1926.58).
 5. 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 the key aspects of the training course.

3. **Inspector.**

... 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.

6.20: continued

- (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 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 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 assurance 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 face piece-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.

6.20: continued

(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 be 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 Part 1926.58); OSHA respirator requirements (29 CFR Part 1910.134); the Friable Asbestos in Schools rule (40 CFR Part 763, Subpart F); applicable State and local regulations, and differences between Federal and State requirements where they apply, and the effects, if any, on public and non-public schools or commercial 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.**

...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 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 HEPA vacuuming; reducing disturbance of ACM; scheduling O&M for off-hours; rescheduling or canceling renovations in areas with ACM; boiler room maintenance; disposal of ACM; in-house procedures for ACM-bridging and penetrating encapsulant; 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).

6.20: continued

- (h) Regulatory review. Focussing 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 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.

5. **Project Designer.**

...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 for 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 face piece-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.

6.20: continued

- (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 cost.
- (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:
 1. Requirements of TSCA Title II.
 2. National Emission Standards for Hazardous Air Pollutants, (40 CFR part 61) subparts A (General Provisions) and M (National Emission Standard for Asbestos).
 3. OSHA Respirator Standard found at 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.
 6. 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 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 1926.1101; 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.

6.20: continued

- (e) Asbestos abatement contracts, specifications, and drawings. Basic provisions of the contract; relationships between the principal parties, establishing chain of command; types of specifications, including means and methods, performance, and proprietary and nonproprietary; reading and interpreting records and abatement drawing; 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.

6.20: continued

(n) Workshops (six hours spread over three 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.

REGULATORY AUTHORITY

453 CMR 6.00: M.G.L. c. 149, §§ 6A through 6F.

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