2005 SUNSET REVIEW

Colorado Department of Regulatory Agencies
Office of Policy, Research and Regulatory Reform

# Colorado Asbestos Control Act

October 14, 2005

# STATE OF COLORADO

**DEPARTMENT OF REGULATORY AGENCIES**
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Bill Owens
Governor

October 14, 2005

Members of the Colorado General Assembly
c/o the Office of Legislative Legal Services
State Capitol Building
Denver, Colorado 80203

Dear Members of the General Assembly:

The Colorado Department of Regulatory Agencies has completed the evaluation of the Colorado asbestos control act. I am pleased to submit this written report, which will be the basis for my office's oral testimony before the 2006 legislative committee of reference. The report is submitted pursuant to section 24-34-104(8)(a), of the Colorado Revised Statutes (C.R.S.), which states in part:

> The department of regulatory agencies shall conduct an analysis of the performance of each division, board or agency or each function scheduled for termination under this section...
>
> The department of regulatory agencies shall submit a report and supporting materials to the office of legislative legal services no later than October 15 of the year preceding the date established for termination….

The report discusses the question of whether there is a need for the regulation provided under Part 5 of Article 7 of Title 25, C.R.S. The report also discusses the effectiveness of the Air Pollution Control Division in carrying out the intent of the statutes and makes recommendations for statutory and administrative changes in the event this regulatory program is continued by the General Assembly.

Sincerely,

Tambor Williams

Tambor Williams
Executive Director

# 2005 Sunset Review
# Colorado Asbestos Control Act

*Department of Regulatory Agencies*

*Bill Owens*
*Governor*

*Tambor Williams*
*Executive Director*

## *Executive Summary*

### *Quick Facts*

**What is Regulated?** The Colorado asbestos control act (Act) regulates the asbestos abatement industry.

**Who is Regulated?** In fiscal year 03-04, there were 2,351 active certifications:

- 1,065 workers
- 506 supervisors
- 57 combined supervisor/project designers
- 61 project designers
- 256 inspectors
- 128 combined inspector/management planners
- 244 air monitoring specialists
- 34 general abatement contractors

**How is it Regulated?** The Colorado Department of Public Health and Environment (CDPHE) certifies contractors and individuals working in the asbestos abatement industry. This involves administering examinations, enforcing minimum standards of practice as defined by law, and disciplining those in violation of the law. CDPHE also issues permits for asbestos abatement projects.

**What Does it Cost?** The fiscal year 03-04 expenditure to oversee this program was $833,138, and there were 8.75 FTE associated with this program.

| In 2005, certification fees were: | 1-year certification |
|---|---|
| Worker | $122.50 |
| Supervisor | $175.00 |
| Project designer | $175.00 |
| Supervisor/project designer | $175.00 |
| Inspector | $122.50 |
| Management planner | $175.00 |
| Inspector/management planner | $175.00 |
| Air monitoring specialist | $175.00 |
| General abatement contractor (3 years) | $525.00 |

**What Disciplinary Activity is There?** Between fiscal years 99-00 and 03-04, disciplinary actions included:

| | |
|---|---|
| Notices of Noncompliance | 144 |
| Warnings | 36 |
| Letters of Admonition | 1 |
| Fines | 48 |
| Dismissed | 8 |
| Other | 57 |

**Where Do I Get the Full Report?** The full sunset review can be found on the internet at:
http://www.dora.state.co.us/opr/oprpublications.htm

### *Key Recommendations*

**Continue the Act until 2013.**
Asbestos is a known carcinogen that has been used in hundreds of thousands of products around the world since the early 1900s. Asbestos is dangerous when it is airborne, and during an asbestos abatement project, asbestos fibers are disturbed and become airborne. Regulation of the asbestos abatement industry is necessary to ensure that asbestos abatement projects are performed by trained and knowledgeable personnel, according to procedures designed to minimize the number of asbestos fibers that remain behind when the project is completed, thereby rendering the abated space safe for re-occupancy.

**Authorize CDPHE to develop and administer certification examinations for air monitoring specialists.**
The General Assembly granted CDPHE the authority to certify air monitoring specialists in 2001. However, due to an oversight, the authority to certify did not include the authority to examine certification candidates. Certification examinations are necessary to ensure that candidates are minimally competent.

**Impose the same conflict of interest prohibitions on asbestos abatement projects involving schools and single-family dwellings as exist for projects involving public and commercial buildings.**
With respect to asbestos abatement projects performed in public and commercial buildings, the Act establishes an independence requirement between the general abatement contractor that performs the abatement and the air monitoring specialist who represents the building owner and conducts the final visual inspection and performs the final air clearances in order to determine whether the abated space is safe for re-occupancy. Since this independence is crucial to determining whether the abated space is safe for re-occupancy, the independence requirement should be expanded to asbestos abatement projects involving schools and single-family dwellings.

*…Key Recommendations Continued*

**Clarify that the certification and disciplinary provisions of the Act apply equally to air monitoring specialists and to all certificate holders who have been recertified.**
One section of the Act specifically allows a certification candidate who is denied certification to request a hearing. This provision enumerates the types of certification candidates that may request a hearing by listing the section numbers pursuant to which such candidates are seeking certification. However, air monitoring specialist candidates are not included on the enumerated list. Similarly, any certificate holder seeking recertification is not included. A similar problem exists with respect to disciplinary actions.

## Major Contacts Made In Researching the 2005 Sunset Review of the Act

City and County of Denver, Department of Environmental Health
Colorado Department of Human Services
Colorado Department of Public Health and Environment
Colorado Petroleum Association
Colorado-Wyoming Insulation and Asbestos Contractors Association
International Code Council – Colorado Chapter

## What is a Sunset Review?

A sunset review is a periodic assessment of state boards, programs, and functions to determine whether or not they should be continued by the legislature. Sunset reviews focus on creating the least restrictive form of regulation consistent with the public interest. In formulating recommendations, sunset reviews consider the public's right to consistent, high quality professional or occupational services and the rights of businesses to exist and thrive in a highly competitive market, free from unfair, costly or unnecessary regulation.

Sunset Reviews are Prepared By:
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# Background

## The Sunset Process

The regulatory functions of the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (Division), Stationary Sources Program, Asbestos Unit (Unit), in accordance with the Colorado asbestos control act (Act), which is codified at Part 5 of Article 7 of Title 25, Colorado Revised Statutes (C.R.S.), shall terminate on July 1, 2006, unless continued by the General Assembly. During the year prior to this date, it is the duty of the Department of Regulatory Agencies (DORA) to conduct an analysis and evaluation of the Unit pursuant to section 24-34-104, C.R.S.

The purpose of this review is to determine whether the Act should be continued for the protection of the public and to evaluate the performance of the Unit. During this review, the Unit must demonstrate that there is still a need for the Act and that the regulation is the least restrictive regulation consistent with the public interest. DORA's findings and recommendations are submitted via this report to the legislative committee of reference of the Colorado General Assembly. Statutory criteria used in sunset reviews may be found in Appendix A on page 43.

## Methodology

As part of this review, DORA staff interviewed Unit staff, representatives of professional associations, local regulators and members of the regulated community; accompanied Unit staff on site inspections; reviewed Colorado statutes and rules and reviewed the laws of other states.

## Overview of Asbestos

Asbestos is the name given to a group of minerals that occur naturally as masses of strong, flexible fibers that can be separated into thin threads and woven. These fibers are not affected by heat or chemicals and do not conduct electricity. For these reasons, asbestos has been widely used in many industries.

Asbestos has been mined and used commercially in North America since the late 1800s, but its use increased greatly during World War II. Since then, it has been used in many industries. For example, the construction industry uses it for strengthening cement and plastics as well as for insulation, fireproofing, and sound absorption. The shipbuilding industry has used asbestos to insulate boilers, steam pipes, hot water pipes, and nuclear reactors on ships. The automotive industry uses asbestos in vehicle brake shoes and clutch pads.

In the late 1970s, the U.S. Consumer Product Safety Commission banned the use of asbestos in wallboard patching compounds and gas fireplaces because these products released excessive amounts of asbestos fibers into the environment. This and other regulatory actions, coupled with widespread public concern about the hazards of asbestos, have resulted in a significant annual decline in the use of asbestos in the United States. Notably, however, asbestos is still used today and it has not been banned outright.

Asbestos fiber masses tend to break easily into a dust comprising tiny particles that can float in the air and stick to clothes. The fibers may be easily inhaled or swallowed and can cause serious health problems.

Long-term exposure to asbestos may increase the risk of developing several serious diseases:

- Asbestosis – a chronic lung ailment that can produce shortness of breath and permanent lung damage and increase the risk of dangerous lung infections;
- Lung cancer;
- Mesothelioma – a relatively rare cancer of the thin membranes that line the chest and abdomen; and
- Other cancers, such as those of the larynx and of the gastrointestinal tract.

Health hazards from asbestos dust have been recognized in workers exposed in shipbuilding trades, asbestos mining and milling, manufacturing of asbestos textiles and other asbestos products, insulation work in the construction and building trades, brake repair, and a variety of other trades. Demolition workers, drywall removers, and firefighters also may be exposed to asbestos dust.

As a result of government regulations and improved work practices, however, people today face a smaller risk of exposure than in the past.

## *Profile of the Profession*

Various individuals in an asbestos abatement project identify, remove, package, transport and dispose of asbestos that is typically located in buildings scheduled for renovation or demolition.

Generally, an asbestos abatement project takes place in a contained space. Containment can be achieved in a number of ways, depending upon the nature of the asbestos-containing material (ACM) to be removed, the location of the ACM and the physical surroundings of the ACM. Because of these variables, no two asbestos abatement projects are identical.

Containment is typically achieved by sealing off the area to be abated with plastic sheeting. Negative air pressure is achieved within the containment area by using what are commonly referred to as “negative air machines” fitted with special air filters capable of removing at least 99.97 percent of asbestos fibers from the air. Negative pressure is maintained throughout the duration of the abatement project so that if there is a breach in containment, any airborne asbestos fibers remain in the containment area and are not forced out by air pressure.

Asbestos abatement workers, and indeed anyone entering a containment area, do so through a series of airlock-type devices. While these are not true airlocks, they serve to prevent direct airflow from within the containment area to the space outside.

Individuals entering the containment area wear personal protective suits, gloves, hardhats, shoe covers and respirators. Respirators are utilized because asbestos poses the greatest risk when it is airborne and enters the lungs. The other safety equipment is intended to prevent the spread of asbestos from within the containment area to the space outside. Before leaving the containment area, these items are removed and either saved within the containment area for future use in the containment area or are disposed of. The individual then takes a shower to remove any asbestos fibers that may have attached themselves to the individual during the time spent inside the containment area.

Colorado certifies six occupational classes of asbestos abatement workers: workers, supervisors, project designers, management planners, inspectors and air monitoring specialists (AMS). Additionally, the general abatement contractor must also be certified.

Inspectors identify and assess the condition of ACM. Project designers determine how the asbestos abatement work should be done. Workers and supervisors carry out and oversee the actual abatement work. The AMS observes abatement activities and generally serves as a building owner’s representative to ensure that abatement work is completed according to specification and in compliance with all relevant statutes and regulations. The AMS also conducts the final visual inspection and final air monitoring for final clearance of the project, meaning that the AMS is responsible for determining when the abated area may be reoccupied.

Additionally, management planners use data gathered by inspectors to assess the degree of hazard posed by ACM in schools to determine the scope and timing of abatement projects in schools.

## *History of Regulation*

The original Colorado asbestos control act (Act) was enacted in 1985. The resulting regulatory program was designed to protect workers and the public from exposure to asbestos. This original Act did not contain a certification program for practitioners. Rather, the legislation directed the Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (Division), Air Quality Control Commission (Commission) to produce a report on asbestos-related issues, including performance standards and practices for asbestos abatement and a maximum allowable asbestos level. The report, which did not contain a recommendation for a certification program, was submitted to the General Assembly on January 15, 1986.

In 1987, the General Assembly passed House Bill 1239 (HB 1239), bringing the Act into compliance with the 1986 federal Asbestos Hazard Emergency Response Act (AHERA). AHERA requires all inspectors, management planners, project designers, work-site supervisors and asbestos abatement workers engaged in asbestos abatement work in schools as to be certified.

The revised Act imposed a certification requirement on persons engaged in asbestos abatement work as general abatement contractors and supervisors. It also required general abatement contractors to train all workers in proper abatement procedures. Finally, HB 1239 established dual certification programs, one for schools and one for non-school workers.

In 1988, the General Assembly passed Senate Bill 191, thereby limiting the Division's jurisdiction to areas of public access. The revised Act also established a maximum allowable asbestos level of fibers in the air in areas of public access.

The changes in 1990 were a result of recommendations made during the 1989 sunset review. The resulting amendments to the Act required the Division to develop or purchase examinations to be administered to applicants for certification. In addition, the Act established procedures to be followed and requirements for applicants who failed such examinations and sought reexamination. The sunset legislation also created grounds for disciplinary action against persons certified under the Act.

Approval of Colorado's asbestos control program was conferred by the U.S. Environment Protection Agency (EPA) under AHERA in 1994, by the granting of a waiver to CDPHE. This waiver, regarding school asbestos inspections, allows CDPHE to directly enforce a notice of noncompliance instead of submitting such notices to EPA for enforcement.

Changes in 1995 were a result of recommendations made in the 1994 sunset review. The amended Act increased the levels of ACM that trigger a need for a given asbestos abatement project to obtain a permit, from not less than 50 linear feet on pipes, to not less than 260 linear feet, and from 32 square feet on other surfaces, to 160 square feet. Additional provisions served to further align the Act with federal requirements, including requiring the completion of refresher courses prior to re-certification and increasing training requirements for asbestos abatement workers.

Another sunset review was conducted in 2000, resulting in two major changes to the Act during the 2001 legislative session. "Area of public access" was redefined to include single-family residential dwellings and provision was made to permit homeowners to "opt out" of regulation under the Act.

Finally, the General Assembly authorized the Division to certify AMS. This authority included the authority to establish training requirements and grounds for disciplinary action, but not the authority to require AMS candidates to take and pass any type of examination.

## *Legal Framework*

### *Federal Regulation*

Several federal statutes and agencies drive the regulation of asbestos abatement in Colorado. These federal statutes and the regulations promulgated thereunder cover work practices, emergency responses, emissions standards, industry standards, construction standards, respiratory protection standards, worker protection standards and the transportation of asbestos.

U.S. Environmental Protection Agency (EPA)

EPA regulates the general public's exposure to asbestos in buildings, drinking water, and the environment. EPA's Toxic Substances Control Act Assistance Office answers questions about toxic substances, including asbestos, and provides information about accredited laboratories for asbestos testing.

Occupational Safety and Health Administration (OSHA)

All employers or general abatement contractors who employ asbestos abatement workers to perform any asbestos-related work in the private sector must comply with OSHA regulations. The Colorado asbestos certification program is designed to avoid overlapping, replacing, or duplicating these regulations.

OSHA requires:

- Monitoring of asbestos concentrations in the air;
- Permissible exposure limits (PEL) of asbestos fibers in the air;
- A short duration exposure limit of asbestos fibers in the air over 30 minutes;
- Methods to ensure any exposure remains within the PEL;
- Limiting access to, and regulating employee actions in, contaminated areas, including the posting of warning signs;
- Permissible work practices and housekeeping;
- Use of respirators and protective clothing;
- Hygiene facilities and practices;
- Employee training;

- Medical surveillance for employees exposed to asbestos; and
- Recordkeeping practices.

Asbestos Hazard Emergency Response Act (AHERA)

AHERA directs EPA to adopt regulations requiring local education agencies to inspect schools for asbestos-containing materials (ACM). Schools are required to take appropriate response actions if such materials are found and submit management, operations and maintenance plans to the designated state agency detailing each school's programs for managing asbestos. AHERA also contains provisions requiring states to adopt mandatory training and accreditation programs for people performing certain types of asbestos-related work in public schools. AHERA requires training and certification for five asbestos disciplines: worker, contractor/supervisor, inspector, management planner, and project designer. AHERA also requires that either EPA or a state with an EPA-approved program accredit training course providers. For each discipline, AHERA outlines a functional role and set of job responsibilities, and stipulated minimum training, examination, and continuing education requirements. Pursuant to AHERA, EPA promulgated the Model Accreditation Plan (MAP), which sets forth the requirements for state training and accreditation programs. Under the provisions of AHERA, state asbestos certification programs must be at least as stringent as the MAP.

Asbestos School Hazard Abatement Reauthorization Act of 1990 (ASHARA)

ASHARA extends the accreditation requirements of AHERA to include training and accreditation of people performing certain types of asbestos-related work in public and commercial buildings.

Clean Air Act

The Clear Air Act establishes a list of hazardous air pollutants, which includes asbestos, and prescribes procedures to follow to prevent asbestos emissions to the outside, ambient air.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

NESHAP establishes procedures for the removal, handling and disposal of asbestos as well as the operation of waste sites accepting the material. In addition, NESHAP covers demolition and renovation projects and mandates that EPA be notified before the start of a project. Pursuant to NESHAP, and as a result of the Colorado asbestos control act (Act) and the regulations promulgated thereunder, the Colorado Department of Public Health and Environment's (CDPHE's) Air Pollution Control Division (Division) has been delegated the federal NESHAP program in Colorado. As a result, NESHAP's regulations are contained within the Air Quality Control Commission's (Commission's) Regulation 8, Part B (Reg. 8), and notices required under NESHAP are given to the Division, rather than to EPA.

## *Colorado Regulation*

The Act may be found in section 25-7-501, *et seq.*, Colorado Revised Statutes (C.R.S.). The Act outlines Colorado's statutory requirements regarding asbestos abatement in buildings. The Act directs the Commission to promulgate rules and regulations regarding asbestos abatement. In addition, the Act outlines the requirements for the issuance of permits for asbestos abatement projects and for the certification of personnel who perform asbestos abatement work. The Act directs the Division to administer and enforce the Act, and towards this end, the Division has created the Asbestos Unit (Unit) within its Stationary Sources Program to handle such day-to-day activities.

The Act is based, in part, on federal standards, such as AHERA, which covers asbestos abatement requirements in schools, ASHARA, which covers asbestos abatement requirements in public and commercial buildings, and NESHAP, which encompasses procedures that must be followed when dealing with ACM to prevent contamination of air outside the abatement work area. Pursuant to the Act, AHERA, ASHARA and NESHAP, the Commission has promulgated Reg. 8.

The Unit is responsible for administering and enforcing the provisions of the Act. In doing so, the Unit provides administrative and technical assistance to the Commission, investigates complaints, administers examinations and enforces compliance with the Act through inspections of asbestos abatement projects. The Unit is also empowered to enforce compliance with the Act through cease and desist orders, through hearings before an administrative law judge, and through injunctive proceedings.

In addition, the Unit is responsible for administering and enforcing that portion of NESHAP that relates to asbestos.

The Act requires any person who conducts asbestos abatement work to obtain a general abatement contractor certificate from the Unit. The contractor must provide a training program for its asbestos abatement workers.

The Act defines the scope of abatement work as wrecking or removing parts of the ceiling, floor, wall or beams that contain friable ACM. Friable ACM, as defined in section 25-7-502(6), C.R.S., is:

> any material that contains asbestos and when dry can be crumbled, pulverized, or reduced to powder by hand pressure and that contains more than one percent asbestos by weight, area or volume.

Asbestos abatement work includes procedures that are intended to prevent the emission of asbestos, including enclosure, encapsulation and removal.

The Unit is granted the authority to certify those persons who must be certified according to the federal requirements under AHERA, ASHARA and NESHAP. In addition to general abatement contractors, there are six categories of certification, including workers, supervisors, inspectors, management planners, project designers and air monitoring specialists (AMS).

The Unit may deny certificates or revoke suspend, or refuse to renew certificates. It may take disciplinary action if there is a violation of the Act or Reg. 8. The Unit may also revoke or suspend the certificate of a contractor for failure to implement an employee-training program for asbestos abatement workers. For violations of the Act, the Unit may issue a letter of admonition or a cease and desist order. The Unit may also assess fines of up to $25,000 per day of violation. In addition to, or in lieu of disciplinary action, the Unit may require education in those areas where a certified person's practice is found to be weak or problematic.

General abatement contractor certificates are valid for three years. All other individual certificates are valid for one, three or five years, at the discretion of the certified person. To be eligible for renewal, certificate holders must complete a refresher course prior to the submission of their renewal applications.

Reg. 8 became effective November 30, 1986, and its most recent amendments became effective March 2, 2005. Reg. 8 implements the asbestos certification program under AHERA and under the Act. Requirements for persons performing asbestos-related work in schools are defined in section 25-7-504, C.R.S. Requirements for any institution providing elementary or secondary education, except for institutions operated and controlled by the Colorado Department of Human Services, are outlined in Reg. 8. Requirements for general, non-school abatement work are also included.

Reg. 8 seeks to limit the public's exposure to asbestos, and it designates training, examination and education requirements for personnel engaged in asbestos abatement activities.

Reg. 8 also includes project requirements for asbestos abatement in both school and non-school environments that address notification and disclosure, permitting, abatement work practices, recordkeeping, inspection and re-inspection, decontamination units, renovation and demolition projects, measurement of asbestos levels and waste material handling.

## *Program Description and Administration*

The Colorado asbestos control act (Act) is administered by the Colorado Department of Public Health and Environment, Air Pollution Control Division, Stationary Sources Program, Asbestos Unit (Unit). As Table 1 illustrates, the Unit has an annual budget of approximately $833,138, and employs 8.75 full-time equivalent (FTE) employees.

**Table 1**

**Program Information**

| Fiscal Year | Total Program Expenditure | FTE |
|---|---|---|
| 99-00 | $771,950 | 7.75 |
| 00-01 | $905,843 | 7.66 |
| 01-02 | $878,625 | 8.24 |
| 02-03 | $908,032 | 8.67 |
| 03-04 | $833,138 | 8.75 |

The Unit's 8.75 FTE comprise 1.0 FTE Environmental Protection Specialist IV (Unit Supervisor), 4.0 FTE Environmental Protection Specialist II (Asbestos Inspectors), 2.0 FTE Environmental Protection Specialist I (Asbestos Inspectors), 1.0 General Professional I (Certification Coordinator) and 0.75 FTE Administrative Assistant III (clerical support).

The Unit Supervisor oversees the day-to-day operation of the Unit, including budgeting, funding and personnel issues. The Unit Supervisor makes determinations regarding enforcement actions and participates in outreach efforts to the public and other governmental agencies.

The Asbestos Inspectors conduct inspections of asbestos abatement and demolition projects across the state. They respond to complaints, recommend enforcement actions to the Unit Supervisor and review and process applications for abatement and demolition permits and variances thereto. The Asbestos Inspectors also respond to requests from the public for information relating to asbestos.

The Certification Coordinator reviews and approves applications for certification, as well as reviews and approves applications for training providers and course instructors.

Finally, the administrative assistant provides general clerical support in the form of data entry, permit processing, mail handling, copying, filing and other, general support functions.

The Unit is cash-funded, so all revenue is generated by the imposition of fees. The Unit imposes fees for the issuance of certifications and permits. Table 2 illustrates the fees imposed for certifications.

**Table 2**

**Certification Fees as of July 2005**

| Certification Type | Time Period | | |
|---|---|---|---|
| | 1 Year | 3 Years | 5 Years |
| Worker | $122.50 | $367.50 | $612.50 |
| Supervisor | $175.00 | $525.00 | $875.00 |
| Project Designer | $175.00 | $525.00 | $875.00 |
| Combined Supervisor/Project Designer | $175.00 | $525.00 | $875.00 |
| Inspector | $122.50 | $367.50 | $612.50 |
| Management Planner | $175.00 | $525.00 | $875.00 |
| Combined Inspector/Management Planner | $175.00 | $525.00 | $875.00 |
| Air Monitoring Specialist | $175.00 | $525.00 | $875.00 |
| General Abatement Contractor | Not Applicable | $525.00 | Not Applicable |

All certification types may be renewed annually, or every three or five years, except for general abatement contractors. According to Unit staff, however, there has been only one certificate holder in recent memory that opted to renew a certification for more than one year. Unit staff attributes this to the fact that certificate holders are still required to re-test each year and to obtain new photo identification cards each year, so most simply renew their certifications at the time they fulfill these other obligations.

In addition to certification fees, the Unit also imposes fees when it issues permits for projects or when a party files a notice for a non-permitted project. Table 3 illustrates the various permit and notice fees.

**Table 3**

**Permit and Notice Fees as of July 2005**

| Permit Fee for Abatement Projects | | |
|---|---|---|
| Project Length | Applies to ALL facilities including single-family residential dwellings | Applies ONLY to single-family residential dwellings |
| | Greater than 260 linear feet/ 160 square feet/ 55-gallon drum | Greater than 50-liner feet/ 32 square feet/ 55-gallon drum, but less than or equal to 260 linear feet/ 160 square feet/ 55 gallon drum |
| 1 – 30 days | $275 | $165 |
| 31 – 90 days | $550 | $275 |
| 91 – 365 days | $825 | $385 |
| Notice Fees for Abatement Projects | | |
| Project Length | Applies to ALL facilities including single-family residential dwellings | Applies ONLY to single-family residential dwellings |
| | Greater than 260 linear feet/ 160 square feet/ 55-gallon drum | Greater than 50-liner feet/ 32 square feet/ 55-gallon drum, but less than or equal to 260 linear feet/ 160 square feet/ 55 gallon drum |
| Any | $55 | $55 |
| Notice Fees for Demolition Projects | | |
| Project Length | Applies to ALL facilities including single-family residential dwellings | |
| Any | $55 | |
| Transfer Fee for Any Type of Project | | |
| Project Length | Applies to ALL facilities including single-family residential dwellings | |
| Any | $40 | |

In general, the amount of asbestos to be abated and the anticipated length of time determine the fee for a particular permit. While this is discussed in greater detail below, in short, these two factors determine the number of inspections for which a particular project will be scheduled. The longer the project or the more asbestos to be abated, the greater the number of anticipated inspections, thus a higher cost to the program that must be recovered through a higher permit fee.

Notices are filed when an asbestos abatement project is exempt from the Act's permitting requirements. Work may be exempt, for example, because the work is to be conducted in an area of non-public access or if the ACM is non-friable. Even exempted work, however, must be performed by certified personnel and comply with the U.S. Occupational Safety and Health Administration's worker protection standards.

Transfer fees are imposed when there is a change in the general abatement contractor that will perform the abatement work. Rather than require the owner of the property to be abated to pay for the writing and submission of a new permit, a transfer fee is paid to cover the Unit's administrative costs of changing the general abatement contractor on the permit.

## *Certifications*

In fiscal year 03-04, the Unit certified 2,351 individuals and businesses. Table 4 provides figures for fiscal years 99-00 through 03-04.

**Table 4**

**Total Number of Certifications**

| Fiscal Year | Number of Certifications |
|---|---|
| 99-00 | 1,637 |
| 00-01 | 1,479 |
| 01-02 | 1,557 |
| 02-03 | 1,668 |
| 03-04 | 2,351 |

The Unit issues eight types of certifications. As Table 5 illustrates, these range from asbestos abatement workers to supervisors, designers and contractors.

**Table 5**

**Certification Information by Certification Type**

| Certification Type | FY 99-00 | FY 00-01 | FY 01-02 | FY 02-03 | FY 03-04 |
|---|---|---|---|---|---|
| Worker | 818 | 658 | 706 | 702 | 1,065 |
| Supervisor | 341 | 322 | 351 | 414 | 506 |
| Combined Supervisor/Project Designer | 63 | 58 | 60 | 53 | 57 |
| Project Designer | 57 | 58 | 66 | 76 | 61 |
| Inspector | 196 | 209 | 193 | 254 | 256 |
| Combined Inspector/ Management Planner | 133 | 138 | 142 | 138 | 128 |
| Air Monitoring Specialist | N/A | N/A | N/A | N/A | 244 |
| General Abatement Contractor | 29 | 36 | 39 | 31 | 34 |
| TOTAL | 1,637 | 1,479 | 1,557 | 1,668 | 2,351 |

With the exception of general abatement contractors, each individual seeking a particular certification must comply with Unit-approved training requirements and pass the relevant examination.

Workers and supervisors perform and oversee the actual abatement work. Project designers determine how the asbestos abatement work should be done. Inspectors identify and assess the condition of asbestos-containing material (ACM). Management planners use data gathered by inspectors to assess the degree of hazard posed by ACM in schools to determine the scope and timing of abatement projects in schools. Air monitoring specialists (AMS), which Colorado began certifying in 2003, observe abatement activities and generally serve as a building owner's representative to ensure that abatement work is completed according to specification and in compliance with all relevant statutes and regulations. The AMS also conducts the final visual inspection and final air monitoring for final clearance of the project, meaning that the AMS is responsible for determining when the abated area may be reoccupied.

The table in Appendix B, which may be found on page 44, illustrates the various training requirements for each type of certification. In short, required training covers topics such as how to recognize and safely remove ACM, as well as legal and recordkeeping requirements.

Training for management planners must span two days, project designers and inspectors -- three days, workers and AMS -- four days and supervisors -- five days.

Worker and supervisor training must include lectures, demonstrations, at least 14 hours of hands-on training, individual respirator fit testing, course review and a written course examination. Hands-on training must permit workers to have actual experience performing tasks associated with asbestos abatement.

Inspector training must include lectures, demonstrations, at least four hours of hands-on training, individual respirator fit testing and a written course examination.

Project designer and management planner training must include lectures, demonstrations, and a written course examination. A management planner candidate must possess a valid inspector certification.

Anyone seeking certification as an AMS must have a high school diploma or a general equivalency diploma. AMS training must include lectures and demonstrations, at least six hours of hands-on training and a written course examination. Additionally, an AMS candidate must, under the supervision of a certified AMS, participate in at least two final visual inspections and at least two final air clearances, as well as successfully perform at least 80 hours of ambient air monitoring under the observation of a certified AMS.

Once a candidate has satisfied all training and examination requirements, the Unit will issue a certificate, a photo-identification-type certification card or both. Only workers, supervisors and AMS receive the photo-bearing cards because these are typically the people that the Unit's Asbestos Inspectors will encounter in the field. The photo-bearing certification cards make the certification verification process easier. In order to counter efforts at creating forged cards, the Unit periodically changes the format and appearance of the photo-bearing cards.

Finally, all certification types, except for general abatement contractors, must attend annual refresher courses. Workers, supervisors and project designers must attend one full-day refresher course; inspectors, management planners and AMS must attend one half-day refresher course.

All training and continuing education requirements comply with the U.S. Environmental Protection Agency's (EPA) Model Accreditation Plan (MAP). The MAP stipulates that individuals who hold multiple certifications must take separate refresher courses for each certification held.

The MAP also requires that all initial and refresher training be provided by approved training providers and instructors in approved courses. Generally, a training provider is the entity offering the training, whereas the instructor is the actual person who teaches the class. Oftentimes, instructors are independent contractors to the training providers.

To obtain Unit approval for a particular course, training providers must submit to Unit staff a proposed curriculum. Upon review, the provider may obtain contingent approval to offer the course. Once contingent approval has been granted, the training provider must apply to the Department of Higher Education, Division of Private and Occupational Schools for approval as an occupational education course.

Unit staff will then observe, or "audit" the first class. If the course is acceptable, the course will be approved and periodic audits will be performed thereafter.

Table 6 illustrates the number of course audits performed by Unit staff for the five fiscal years indicated.

**Table 6**

**Course Audits**

| Fiscal Year | Number of Audits |
|---|---|
| 99-00 | 17 |
| 00-01 | 26 |
| 01-02 | 27 |
| 02-03 | 32 |
| 03-04 | 27 |
| Total | 129 |

Training course providers must notify Unit staff, in writing, of scheduled course offerings at least two weeks prior to the course offering. Notification of course cancellations must be provided by 5:00 p.m. the day prior to the course offering.

The Unit has approved at total of 16 training providers. Training providers may be approved to offer trainings for more than one certification type. Table 7 illustrates the number of training providers approved for each certification type.

**Table 7**

**Approved Training Providers by Certification Type**

| Certification Type | Number of Approved Providers |
|---|---|
| Worker | 15 |
| Supervisor | 14 |
| Project Designer | 11 |
| Inspector | 12 |
| Management Planner | 11 |
| Air Monitoring Specialist | 7 |

Although training providers may be approved to offer initial training, refresher training or both, all training providers approved for the supervisor, project designer, inspector and management planner certification-types are approved to offer both initial and refresher training. Only one training provider has applied and been approved to offer initial AMS training, while six have been approved to offer refresher trainings.

Finally, of the 15 training providers approved to offer worker training, nine offer such training in English only, one offers it in Spanish only and five offer such training in both languages.

Only Unit-approved instructors may teach initial or refresher courses. To obtain approval, an instructor must possess: 1) a high school diploma or general equivalency diploma; 2) current certification in the discipline(s) being taught and 3) three years of field experience in the discipline(s) being taught.

The Unit has approved a total of 49 instructors. Table 8 illustrates the number of instructors the Unit has approved to offer trainings in the certification-types indicated.

**Table 8**

**Approved Instructors by Certification Type**

| Certification Type | Number of Approved Instructors |
|---|---|
| Worker | 44 |
| Supervisor | 33 |
| Project Designer | 19 |
| Inspector | 26 |
| Management Planner | 17 |
| Air Monitoring Specialist | 7 |

Like the training providers they contract with, individual instructors may be approved to offer trainings for more than one certification type. Indeed, of the 46 approved instructors, five have been approved to offer trainings for six certification-types; eight offer trainings for five certification-types; six offer trainings for four certification-types; nine offer trainings for three certification-types; eight offer trainings for two certification-types and 10 offer trainings for one certification-type.

Since an instructor must hold a certification in the subject matter of the training offered, the number of instructors approved to offer trainings in multiple certification-types reveals two important items. First, it offers an indication as to the number of individuals holding multiple certifications. Second, and perhaps more importantly, it signifies that instructors bring to their trainings, a broad-based perspective and suggests that they truly understand the industry.

Importantly, of the 44 instructors approved to provide worker trainings, six offer such trainings in Spanish.

Finally, training providers and instructors are not confined to offering trainings in specific locations. Once the training provider and instructor are approved by the Unit, they may offer their trainings anywhere in the state at any time. The result is that trainings are relatively easy to find and schedule, regardless of where an individual may reside.

### *Examinations*

With the exceptions of general abatement contractors and AMS, all certification-types must take and pass written certification examinations. Again, EPA's MAP defines the examination requirements. Workers, inspectors and management planners must take certification type-specific, 50-question, multiple-choice examinations. The certification type-specific examinations for supervisors and project designers consist of 100 multiple-choice questions. For all certification-types, an individual must answer 70 percent correctly in order to pass.

Neither the MAP nor Colorado law requires an AMS candidate to take and pass a certification examination.

All examinations are administered in a paper and pencil format, where candidates fill in the appropriate bubble on an answer sheet that is then scanned by computer. Test results are typically available within three days.

The worker and supervisor examinations are offered in English and Spanish, but all others are offered in English only. If a candidate requests an examination in a language other than English or Spanish, the candidate may bring a translator to audibly read the examination questions to the candidate.

Although the Unit does not routinely track the pass/fail rates for the various examinations, or the number of times it takes for candidates to pass an examination, Unit staff was able to obtain pass/fail rates for the period running between August 31, 2004, and June 24, 2005. Table 9 illustrates the pass rates for the various examinations for this time frame.

**Table 9**

**Examination Pass Rates by Certification Type**
**August 21, 2004 through June 24, 2005**

| Examination for Certification Type | Number of Examinations Administered | Pass Rate (%) |
|---|---|---|
| Worker – English | 288 | 86 |
| Worker – Spanish | 587 | 81 |
| Supervisor – English | 421 | 92 |
| Supervisor – Spanish | 16 | 67 |
| Project Designer | 101 | 98 |
| Management Planner | 109 | 97 |
| Inspector | 318 | 99 |
| Regulation 8, Part B | 569 | 81 |

The examination entitled "Regulation 8, Part B" is a 50-question, multiple-choice examination covering Air Quality Control Commission's (Commission's) Regulation 8, Part B (Reg. 8), which has been promulgated pursuant to the Act. Only supervisors and project designers are required to take this examination, and it is scored separately from the examinations for those two certification-types.

Although the Spanish-language supervisor examination was administered only 16 times, the pass rate is still remarkably low at 67 percent. Unit staff attributes this, in part, to the fact that the courses are taught and the course materials are written in English.

Additionally, when the translations were performed in 1990 for the worker examination and in 1996 for the supervisor examination, the examinations were sent to Atlanta for translation. Unit staff is concerned that the common Spanish-language dialect in that region of the country reflects Spanish speakers from Florida, Puerto Rico and Cuba. By contrast, the more common dialects in Colorado are from Mexico and Central America. Thus, although the examination is presented in Spanish, it is in a dialect with which many Colorado test-takers may not be familiar, thus the lower pass rates.

In reviewing the pass rates in Table 9, it is important to note once again that these pass rates are for all test takers and do not reflect the pass rates for first-time test takers. The Unit was unable to provide data for first-time test takers only. As a result, the pass rates contained in Table 9 are artificially high, because candidates often take the examination until obtaining a passing score.

All examinations, with the exception of the Spanish-language supervisor examination, were originally created and psychometrically validated in 1990, with the assistance of outside test-writers. The Spanish-language supervisor examination was developed in 1996. However, since they were originally developed, Unit staff has revised various examination items on the various examinations as the laws and regulations have changed and as the industry has changed over time.

In addition to attending the required annual refresher courses, each certificate holder must also re-test every year.

Table 10 illustrates that between 2,500 and 3,000 examinations are administered each year. While staff cannot report on the pass/fail rates of the respective examinations, the number of examinations administered steadily increased between fiscal year 01-02 and 03-04.

**Table 10**

**Examination Information**

| Fiscal Year | Number of Written Examinations Given |
|---|---|
| 99-00 | 2,771 |
| 00-01 | 2,532 |
| 01-02 | 2,410 |
| 02-03 | 2,612 |
| 03-04 | 3,019 |

Through an agreement with the Division's Mobile Sources Unit, asbestos certification examinations are administered at emissions technical centers in Aurora, Colorado Springs, Denver, Fort Collins and Grand Junction. All test centers offer the examinations between the hours of 8:00 a.m. and 3:00 p.m., but only the Denver and Aurora centers allow walk-in testing; all others require an appointment. Additionally, examinations are administered in Denver and Aurora, every Monday through Friday. The Colorado Springs test center is available every Monday through Thursday, Grand Junction administers the examinations every Monday and Wednesday, and Fort Collins offers the examinations on Tuesdays only.

Although the Unit does not track the number of each type of examination administered at each of the testing centers, Table 11 illustrates the total number of examinations administered at each testing center for the fiscal years indicated.

**Table 11**

**Number of Examinations Administered by Testing Center**

| Fiscal Year | Denver | Aurora | Colorado Springs | Fort Collins | Grand Junction | Total |
|---|---|---|---|---|---|---|
| 99-00 | 1,934 | 530 | 149 | 77 | 81 | 2,771 |
| 00-01 | 1,818 | 390 | 141 | 111 | 72 | 2,532 |
| 01-02 | 1,642 | 395 | 190 | 81 | 102 | 2,410 |
| 02-03 | 1,862 | 402 | 176 | 106 | 66 | 2,612 |
| 03-04 | 2,114 | 641 | 161 | 48 | 55 | 3,019 |

By far, the Denver testing center administers the most examinations. The total number of examinations administered has remained relatively constant at between 2,500 and 3,000 per year.

Regardless of where the examination is taken or the certification-type sought, the certification fee must be paid before a candidate is allowed to sit for the examination. The list of relevant fees may be found in Table 2 on page 11. If a candidate fails the examination and desires to re-test, the candidate must pay a re-examination fee of $25. The Unit permits candidates to re-take an examination four times before requiring some kind of remedial education and re-application.

All examinations are graded at the Unit's headquarters in Denver. When a passing score is achieved, the Unit's Certification Coordinator ensures that the candidate has submitted: 1) a completed application form and the required fee; 2) proof of training; 3) proof of U.S. citizenship or the ability to legally work in the U.S. and 4) a copy of a photo identification of the candidate. When all of these requirements are satisfied, the Certification Coordinator generates a certificate, photo-bearing certification card or both, which is then mailed or made available for the certificate holder to pick-up from the Unit's headquarters.

## *Inspections*

Prior to any renovation or demolition in any public or commercial building that may disturb ACM, a certified inspector must conduct an inspection. Buildings, or those portions thereof, that were constructed after October 12, 1988, are exempt from the inspection requirement if an architect or project engineer responsible for the construction of the building, or a state-certified inspector, signs a statement verifying that no ACM was specified as a building material in any construction document for the building or that no ACM was used as a building material in the building.

If the amount of ACM to be disturbed exceeds the trigger levels, the abatement must be conducted in accordance with Reg. 8, and a permit must be obtained from the Unit.

In single-family residential dwellings, the trigger level is 50 linear feet of ACM on pipes, 32 square feet of ACM on other surfaces or enough ACM to fill the volume equivalent of a 55-gallon drum. In all other areas, the trigger level is 260 linear feet of ACM on pipes, 160 square feet of ACM on other surfaces or enough ACM to fill the volume equivalent of a 55-gallon drum.

If the ACM to be abated is friable, satisfies the trigger level and is in an area of public access, which includes single-family residential dwellings, a permit must be obtained from the Unit prior to the commencement of abatement work. However, generally, if the ACM is in an area of non-public access or is non-friable, only notice must be given to the Unit.

Applications for permits must generally be submitted to the Unit at least ten days prior to the commencement of abatement work. This allows Unit staff sufficient time to review the application and address any outstanding issues so that the permit can be issued in a manner that allows work to begin as scheduled. It also allows Unit staff to schedule the appropriate number of inspections, to be completed by the Unit's Asbestos Inspectors, for a given project at appropriate times.

The filing of notices, in conjunction with the permitting process, allows the Unit to at least be aware of all asbestos abatement projects being conducted in the state. Should a complaint be received regarding a noticed project, Unit staff is better able to address public concerns and can more quickly respond to complaints with inspections, if warranted. Table 12 describes when a permit must be obtained for a given project and when a notice may be filed for a particular project.

**Table 12**

**Requirements for Permits and Notices**

| Circumstances Requiring a Permit – All Three Must be Met | Circumstances Requiring a Notice – All Three Must be Met | |
|---|---|---|
| ACM > Trigger Levels* | ACM > Trigger Levels* | ACM > Trigger Levels* |
| ACM is located in an Area of Public Access | ACM is located in a Non-Public Access Area | ACM is located in an Area of Public Access |
| ACM is Friable | ACM is Friable or Non-Friable | ACM is Non-Friable |

* For public & commercial buildings, the trigger levels are 160 square feet on surfaces, 260 linear feet on pipes, or the volume equivalent of a 55-gallon drum. For single-family residential dwellings, the trigger levels are 32 square feet on surfaces, 50 linear feet on pipes, or the volume equivalent of a 55-gallon drum.

If the ACM to be abated is in a single-family residential dwelling, the homeowner may "opt out" of many of the requirements of Reg. 8 by filing the appropriate form with the Unit and paying a $55-fee. While opting out may reduce what the homeowner pays to the general abatement contractor for the abatement project, it also relieves the general abatement contractor from having to comply with the safeguards of Reg. 8, such as establishing containment areas and passing final clearances. Opting out also denies the Unit any jurisdiction over the abatement project should anything go wrong.

Table 13 illustrates the number of permits issued and the number of notices filed during the five-year period indicated. Although the Unit's computer database does not differentiate between single-family residential dwelling opt-out notices and other single-family residential notices, Unit staff asserts that approximately 80 percent of the single-family residential notices reported in Table 13 constitute opt-out notices. Table 13 also identifies the types of permits issued.

**Table 13**

**Number and Types of Permits and Notices**

| Fiscal Year | SFRD 30-Day Permit | SFRD 90-Day Permit | SFRD 1-Year Permit | P&C 30-Day Permit | P&C 90-Day Permit | P&C 1-Year Permit | Courtesy Notices/ Multiphase | P&C Notices | SFRD Notices | Demolition Notices | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 99-00 | 0 | 0 | 0 | 601 | 49 | 16 | 265 | 577 | 0 | 0 | 1,508 |
| 00-01 | 0 | 0 | 0 | 616 | 35 | 10 | 234 | 561 | 0 | 339 | 1,795 |
| 01-02 | 0 | 0 | 0 | 597 | 36 | 13 | 88 | 635 | 0 | 771 | 2,140 |
| 02-03 | 42 | 0 | 0 | 494 | 24 | 15 | 150 | 601 | 48 | 827 | 2,201 |
| 03-04 | 197 | 1 | 0 | 504 | 40 | 20 | 139 | 524 | 271 | 1,138 | 2,834 |
| Total | 239 | 1 | 0 | 2,812 | 184 | 74 | 876 | 2,898 | 319 | 3,075 | 10,478 |

P&C = public and commercial buildings
SFRD = single-family residential dwellings

As Table 13 clearly reflects, the number of asbestos abatement projects has steadily increased during this five-year period.

Additionally, Reg. 8 sets out, in fairly specific terms, the requirements necessary to perform an abatement project. However, since abatement projects are entirely site-specific, it is often impractical or not feasible to comply with certain provisions of Reg. 8. In such circumstances, a variance from those specific requirements may be requested.

A variance application must indicate why the particular provision of Reg. 8 is impractical and not feasible. In addition, the variance application must propose an alternative solution that is at least as protective as if Reg. 8 were applied. Unfortunately, the Unit does not specifically track variances, so it is not known how many variances are applied for or issued. Unit staff asserts that most variances are approved, although some modifications may be made. Industry representatives claim, and Unit staff confirms, that most large projects involve at least one variance.

On a rotating basis, a member of the Unit's staff reviews the variance applications for completeness. If additional information is needed, Unit staff will contact the applicant to address any outstanding issues. Once the application is complete, all of the Unit's Asbestos Inspectors review the variance application and must agree to grant the variance. While somewhat cumbersome, this process ensures that multiple perspectives are obtained before relieving someone from the requirements of Reg. 8.

While Unit staff estimates that approximately half of all variance requests require some type of follow-up to obtain additional information, staff also reports that approximately 90 percent of all variance requests are ultimately approved. It is also important to note that a single permit may involve multiple variances.

The issuance of a permit also triggers the need for the Unit's Asbestos Inspectors to inspect the abatement project. The number of inspections scheduled for a given project is a function of the anticipated duration of the project and the complexity of the project, as described in the permit application. Longer and more complicated projects are likely to be inspected more often than shorter, relatively simple projects. In general, one inspection will be conducted on a 30-day project, two for a 90-day project and three for a 1-year project. This is, in essence, a risk-based approach to scheduling inspections. However, due to the number of projects conducted in the state each year, not all projects are inspected.

An inspection may also be triggered by a complaint. Unit staff gives complaints the highest priority with respect to conducting inspections.

Table 14 illustrates the total number of inspections conducted during the five-year period indicated.

**Table 14**

**Total Number of Inspections**

| Fiscal Year | Number of Inspections |
|---|---|
| 99-00 | 1,402 |
| 00-01 | 1,215 |
| 01-02 | 1,228 |
| 02-03 | 1,646 |
| 03-04 | 1,924 |
| Total | 7,415 |

Finally, the Unit may also inspect a project for which only a notice was filed, given certain circumstances, most of which pertain to the grounds for which a notice, rather than a permit, was filed.

Regardless of the reason for the inspection, the Unit's Asbestos Inspector provides the on-site project supervisor with a written report outlining any detected violations.

## *Complaints/Disciplinary Actions*

Disciplinary or enforcement actions can be initiated by one of two means: as the result of an inspection or as the result of a complaint from the public.

If, during the course of an inspection, a Unit Asbestos Inspector identifies what appear to be serious violations, or repeated violations, an enforcement action may be initiated. Repeat violations are typically detected when, on the first inspection of a project, the Asbestos Inspector identified a minor violation and instructed the general abatement contractor to rectify the situation. The Asbestos Inspector may then schedule the project for a follow-up inspection to ensure that the problems have been rectified. If they have been rectified, no further action is taken. If, however, the problems persist, disciplinary action may be initiated.

If, during the course of an inspection, an Asbestos Inspector identifies a major violation or a violation that jeopardizes the health, safety or welfare of the public, the Asbestos Inspector can order a cessation of work until the problem is rectified. In such cases, disciplinary action is initiated.

Complaints from the public can also serve as the impetus for disciplinary action. Although the Unit does not track all public inquiries, most are in the form of telephone calls. Unit staff performs an initial screening of inquiries by first determining whether a permit has been issued or a notice filed for the abatement project at issue.

An inspection is almost always immediately scheduled. Such inspections may be conducted by Unit staff or by the county health department, if the county in which the project is being conducted has an agreement with the Unit to conduct such inspections. As of July 2005, the Unit had agreements with Boulder County, the City and County of Denver, Jefferson County and the City and County of Pueblo to conduct such inspections.

If the county health inspector or the Unit's Asbestos Inspector assigned to the project/complaint determines that a violation warranting disciplinary action has occurred, it is raised at the Unit Supervisor's weekly enforcement meeting with each of the Unit's Asbestos Inspectors. All of the Unit's Asbestos Inspectors and the Unit Supervisor review such cases and determine what further action to take.

If Unit staff determines, based on the inspection reports, that no violation has occurred, the matter is dismissed.

If Unit staff finds that violations have occurred, but they do not rise to the level of warranting formal disciplinary action, a warning letter may be issued.

However, if the Unit staff determines that a violation has occurred and that formal disciplinary action is warranted, a letter of Notice of Violation (NOV) is issued. In the NOV, the Unit sets out what violations allegedly occurred and offers the subject of the action the opportunity to schedule an NOV conference at which the two sides discuss the situation and the facts of the case.

Following the NOV conference, Unit staff issues a Compliance Determination Letter (CDL). If Unit staff determines that no violation occurred, the CDL will dismiss the case. However, if Unit staff determines that a violation did occur, the CDL will impose a monetary penalty.

Table 15 illustrates the disposition of cases for the fiscal years indicated.

**Table 15**

**Disposition of Cases**

| Case Finding | FY 99-00 | FY 00-01 | FY 01-02 | FY 02-03 | FY 03-04 |
|---|---|---|---|---|---|
| Pending | 6 | 5 | 14 | 11 | 27 |
| Compliant | 8 | 5 | 6 | 4 | 0 |
| Dismissed | 2 | 0 | 0 | 1 | 5 |
| Evidence | 14 | 1 | 0 | 0 | 0 |
| Guilty | 19 | 19 | 7 | 11 | 1 |
| Inquiry Only | 1 | 0 | 2 | 4 | 0 |
| Letter of Admonition | 0 | 0 | 0 | 1 | 0 |
| Notice of Noncompliance | 15 | 34 | 32 | 46 | 17 |
| Rectified | 1 | 0 | 0 | 0 | 2 |
| Statute of Limitations | 2 | 1 | 4 | 0 | 0 |
| Timeliness | 6 | 1 | 0 | 0 | 0 |
| Warning | 6 | 8 | 3 | 10 | 9 |
| Total Agency Actions | 80 | 74 | 68 | 88 | 61 |

Alternatively, if Unit staff feels that a violation clearly occurred, they may issue a CDL prior to holding an NOV conference. In such cases, the CDL will include an early settlement offer with a reduced monetary penalty. If the settlement offer is rejected, then an NOV conference is held.

Monetary penalties are calculated based on a formula, which considers the duration of the violations, willfulness, severity and the past record of the violator. Table 16 illustrates the number of fines imposed and the dollar value of those fines for the fiscal years indicated.

**Table 16**

**Fine Information**

| Fiscal Year | Total Number of New Cases | Number of Fines Imposed | Total Value of Fines Imposed |
|---|---|---|---|
| 99-00 | 50 | 9 | $53,850.63 |
| 00-01 | 74 | 18 | $47,540.00 |
| 01-02 | 68 | 7 | $43,269.38 |
| 02-03 | 88 | 9 | $28,299.56 |
| 03-04 | 61 | 5 | $16,907.50 |

Although the Unit has the authority to revoke or suspend a certification, it has done so only on rare, exceptional occasions and not at all during the period under review here. It is important, to note, however, that since the past record of the one being fined is considered in the penalty calculation, the more violations one accumulates, the more severe the penalties. For a truly bad actor, the fines may reach the point of driving that actor out of business, thus accomplishing the same, ultimate goal as a revocation.

An important indicator as to the efficiency of any regulatory program addresses the amount of time that passes from the initiation of an investigation until ultimate disposition. Table 17 illustrates the mean time to closure for each of the five fiscal years indicated.

**Table 17**

**Mean Time to Closure**

| Fiscal Year | Enforcement Clock to Case Officially Closed | | |
|---|---|---|---|
| | Min Days | Max Days | Mean Days |
| 99-00 | 44 | 2,101 | 552 |
| 00-01 | 14 | 1,872 | 492 |
| 01-02 | 66 | 1,453 | 470 |
| 02-03 | 0 | 1,148 | 340 |
| 03-04 | 43 | 840 | 413 |

According to Table 17, it can take the Unit over one year to close a case. More alarming, however, is the fact that in each of the five fiscal years reported in Table 17 each had at least one case that exceeded two years.

Another, related statistic, pertains the amount of time that passes from when the Unit identifies a violation until the time the Unit notifies the certificate holder that a disciplinary action is pending. Table 18 illustrates the number of days that pass between when the Unit identifies a violation and when it notifies the certificate holder that disciplinary action is being pursued.

**Table 18**

**Average Time to Commencement of Disciplinary Action**

| Fiscal Year | Enforcement Clock to Case Opened | | |
|---|---|---|---|
| | Min Days | Max Days | Mean Days |
| 99-00 | 6 | 357 | 59 |
| 00-01 | <1 | 436 | 97 |
| 01-02 | <1 | 465 | 57 |
| 02-03 | 1 | 487 | 59 |
| 03-04 | <1 | 336 | 83 |

The statistics revealed in Table 18 are important because they represent the amount of time during which a certificate holder lacks the knowledge that the certificate holder should be preserving evidence to mount a defense. As Table 18 illustrates, the Unit typically notifies certificate holders that the Unit is pursuing disciplinary action within two or three months of detection of the violation. This seems unjustifiably long, and is cause for greater concern when the maximum number of days is examined. Table 18 illustrates that in each of the five fiscal years examined, at least one certificate holder received word of a violation that occurred over a year earlier. During that year, employees likely left, records may have been lost, memories likely faded, etc. All of this makes it more difficult for the certificate holder to refute whatever violation the Unit alleges.

Division and Unit management have recently recognized this problem and are implementing mechanisms to rectify the situation.

## *Analysis and Recommendations*

*Recommendation 1 – Continue the Asbestos Control Act for seven years, until 2013.*

The first sunset criterion asks whether regulation is necessary to protect the public health, safety or welfare. Historically, this question has been easy to answer with respect to asbestos because asbestos is a known carcinogen. Additionally, because of asbestos' ability to withstand heat and chemicals, it has been used in hundreds of thousands of products around the world since the early 1900s.[1]

It is commonly accepted that smokers and children are the most susceptible to asbestos-related diseases. Smokers are at increased risk because, through smoking, they have already damaged their cilia, which is the body's primary method of keeping particulate matter out of the lungs. With the smoker's body's defenses weakened, the exposure to two known carcinogens increases the likelihood that a smoker will develop an asbestos-related disease.

Children are at a high risk because the latency period for asbestos-related diseases range from 10 to 40 years, so they are more likely than a middle-aged adult to live long enough to develop an asbestos-related disease and are more likely to experience on-set at a relatively young age.

Because of the heightened risk to children, the nation's and Colorado's initial regulatory focus was on schools. In 1985, the U.S. Environmental Protection Agency (EPA) estimated that 31,000 schools and another 733,000 public and commercial buildings contained friable asbestos.[2]

Despite all of this, however, asbestos is not a banned substance. Asbestos is still used in floor tiles, cement products, wallboard and roofing materials. Asbestos is not, necessarily, a "bad" product. On the contrary, it is a highly useful and versatile product, which explains its widespread use. It only becomes dangerous when it becomes airborne.

The risk associated with exposure to airborne asbestos, however, is the subject of great debate. There is little question that long-term exposure to airborne asbestos can be deadly. This is exemplified by the seemingly never ending stories of shipyard workers during World War II.

[1] John H. Lange, "The Emergence of a New Policy for Asbestos: A Result of the World Trade Center Tragedy," *Indoor Built Environment* (2004), 13:21-33, p. 21.
[2] *Measuring Airborne Asbestos Following an Abatement Action*, U.S. Environmental Protection Agency, EPA Pub. No. 600/4-85-049 (Nov. 1985), p. 1-1.

Due to the long latency period involved with asbestos-related diseases, there have been very few, if any, studies regarding short-term exposure to asbestos. Why, then, regulate asbestos abatement? Regulation is necessary because asbestos is dangerous when airborne; it is the degree to which it is dangerous that is debatable.

However, during an asbestos abatement project, asbestos is disturbed, thus making it indisputable that asbestos fibers will become airborne. Additionally, since asbestos is used in building materials, the asbestos that is disturbed during an asbestos abatement project is, generally, indoors, thus increasing the concentration of asbestos fibers. Finally, if asbestos abatement is done improperly, those high concentrations of asbestos fibers will remain behind, thus creating a situation of long-term, high concentration exposure. This is known to be dangerous.

Therefore, it is necessary to regulate asbestos abatement to reduce the likelihood of such long-term, high concentration exposure and to reduce the concentration of exposure. The best way to regulate a process is to ensure that those individuals involved are competent and that the project is designed to remove as much asbestos as possible, while at the same time limiting the area to which such asbestos can spread. The result of all of this is the Colorado asbestos control act (Act).

While it is clear that regulation is necessary to protect the public health, safety and welfare, the second sunset criterion asks whether current statutes and rules constitute the least restrictive form of regulation consistent with the public interest. In short, are there less restrictive alternatives that would still protect the public?

The most obvious alternative to the *status quo* would be to repeal the Act and allow Colorado's asbestos abatement industry to fall under the jurisdiction of EPA pursuant to the federal National Emission Standards for Hazardous Air Pollutants (NESHAP). This is contrary to the public interest for several reasons.

NESHAP is not asbestos-specific. It attempts to regulate, at a national level, a host of air pollutants, one of which is asbestos. Furthermore, NESHAP offers little guidance as to how to safely abate asbestos. Rather, NESHAP establishes standards for the amount of asbestos that may be released during abatement.

The Act, on the other hand, is asbestos-specific. The Act not only delineates standards for acceptable levels of airborne asbestos, it also specifies the roles that various individuals play in an asbestos abatement project, what competencies those individuals must possess and authorizes the Colorado Department of Public Health and Environment's (CDPHE) Air Pollution Control Division (Division), Asbestos Unit (Unit) to approve project designs and to discipline those individuals who violate the Act.

Thus, whereas NESHAP represents a minimal form of regulation, the Act represents a comprehensive regulatory approach to handling a hazardous substance.

During the course of this review, a representative of the Department of Regulatory Agencies (DORA) interviewed a number of asbestos abatement contractors and consultants. A common theme during these interviews became professionalism. The Act, these individuals asserted, ensures that asbestos abatement contractors in Colorado maintain a certain level of professionalism and, more importantly, that they abate asbestos safely.

Recall that asbestos is a fiber. Generally, a single fiber of asbestos is not visible to the naked eye. This is especially true of airborne asbestos, which, if it is visible at all, is indistinguishable from common dust and other airborne particles.

Anecdotal evidence suggests that asbestos abatement projects in states that operate under NESHAP only are rife with fraud and incompetence. During the course of this review, it was asserted that asbestos abatement contractors in such states do not educate their workers on the hazards of asbestos or how to safely handle asbestos. As a result, abatement projects in such jurisdictions can actually increase the risk of exposure to asbestos for building occupants because the asbestos is literally ripped out with little or no clean up. In other words, asbestos fibers, which appear as dust, are left behind.

To be sure, however, the Act and the program administered by the Unit are not perfect. One of the abatement industry's biggest complaints regarding the Act and Unit pertain to the issue of consistency. Recall that an application for an asbestos abatement project permit must outline the processes and procedures to be implemented on that given project. Since each asbestos abatement project is necessarily different from all others, the permitting process provides the public with the assurance that the Act and regulations are being applied appropriately to the specifics of a particular project.

Since every project is site specific and is different from all others, the Act and rules do not, indeed, cannot, address every conceivable situation. Rather, the Act and rules attempt to provide a basic framework according to which each asbestos abatement project must adhere. If, for some reason, variation from the Act and rules is necessary, the asbestos abatement contractor may request a variance.

Naturally, this generates a lot of questions, particularly when unanticipated problems arise during the course of an asbestos abatement project. To its credit, the Unit's staff is willing to answer questions over the phone, rather than simply requiring such questions to be submitted in writing. This assists asbestos abatement contractors because it results in fewer delays, since it is not necessary to submit a written question and then wait for a written response.

On the other hand, it can also result in what some perceive to be inconsistent answers. Since the Unit's staff consists of six Asbestos Inspectors, the same question could, potentially, receive six different answers. Indeed, asbestos abatement contractors who complain about this inconsistency allege that they know which Asbestos Inspectors to call to get the answers they want.

The Unit defends itself by asserting that it answers questions based on the information provided, and asbestos abatement contractors know what information to provide to get the answers they want. If they get an answer they dislike, they call a different Asbestos Inspector and provide slightly different information so that the Asbestos Inspector will provide the answer sought.

So, on the one hand, the asbestos abatement industry takes advantage of the Unit's philosophy of providing superior customer service, and then complains when that service is less than perfect. But why, it is logical to ask, should these individuals need to call the Unit for guidance if they have taken and passed the certification examination and attended the mandatory refresher courses?

There are two possible answers to this question. First, the Act and the rules cannot address every conceivable situation, and even if they did, it is the inconceivable situations that generate questions. Second, there is speculation that general abatement contractors and consultants know the answers to the questions they pose, but it is easier for them to tell their clients, who are the building owners, that it is the state, not the general abatement contractor or consultant, who is making the building owner pay more to have the project done correctly.

An additional consideration is the goals of the entities involved. The Unit's mission is to protect the public. The general abatement contractor's mission is to complete the project at a minimal cost to the building's owner as quickly as possible. These two goals can be adverse, which is the very reason for regulation to begin with. Without regulation, cost, not public protection, would be the determining factor in all abatement projects. The adverse interests of building owners trying to save money on the one hand, and the Unit trying to protect the public and the environment on the other hand, serve to balance one another to the point that the regulation of the asbestos abatement industry in Colorado works to serve both interests – the public interest is protected in the least restrictive manner possible.

To its credit, the Unit has undertaken to provide written answers to frequently asked questions and these written answers form a sort of guidance to the industry.

Since the risks of long-term exposure to asbestos are well documented, since the risks of exposure to high levels of asbestos are well documented and since the Act represents the best, practical way to reduce both, the General Assembly should continue the Act for seven years, until 2013, consistent with the recommendations contained in this sunset report.

*Recommendation 2 – Authorize the Unit to develop and administer psychometrically valid competency examinations for candidates seeking certification as air monitoring specialists.*

The Unit began certifying air-monitoring specialists (AMS) in 2003, following DORA's recommendation in the 2000 sunset review of the Act. DORA's recommendation, however, as well as the subsequent legislation, failed to specify whether those seeking such certification should be required to take and pass examinations.

Rather, section 25-7-506.5(3), Colorado Revised Statutes (C.R.S.), directs the Unit to issue a certification to any candidate "upon a finding that the applicant has successfully met the experience, education and training requirements and has paid a fee." Furthermore, section 25-7-505.5(1), C.R.S., directs the Unit to "develop or purchase examinations administered pursuant to this part 5 for certification under sections 25-5-506 and 25-5-507." Section 25-5-506, C.R.S., addresses the certification of supervisors and section 25-5-507, C.R.S., addresses the certification of inspectors, management planners and asbestos abatement workers. Thus, the Unit lacks clear statutory authority to examine AMS candidates.

This was clearly an oversight. AMS are, arguably, the lynchpin in the public protection aspect of asbestos abatement because it is the AMS that determines whether a given abatement project has been completed, that the amount of asbestos in the air is acceptable and the space may be reoccupied.

Indeed, according to EPA, one of the most critical points in an asbestos abatement project is knowing when the work has been completed and when the building may be reoccupied.[3] Additionally, the job of the AMS is highly technical, for it involves not only conducting a visual inspection of the work site, but also the taking of air samples to determine the amount of asbestos in the air. This, in turn, leads to the determination as to whether the building may be reoccupied. However, the AMS is the only individual involved in asbestos abatement that is not required to take and pass an examination.

So implied in the certification of the AMS was the idea of a competency examination, that following the 2001 legislative session, the Unit actually developed an AMS certification examination and the Air Quality Control Commission (Commission) promulgated regulations requiring the passage of the examination. It was not until the regulations underwent their first, annual review by the Office of Legislative Legal Services that the oversight was detected.

Since the original legislation authorizing the Unit to certify AMS mistakenly omitted the express authorization to develop and administer certification examinations, the General Assembly should amend the Act to grant to the Unit the express authority to require candidates for AMS-certification to take and pass a competency examination.

[3] *Measuring Airborne Asbestos Following an Abatement Action,* U.S. Environmental Protection Agency, EPA Pub. No. 600/4-85-049 (Nov. 1985), p. v.

*Recommendation 3 – Impose the same conflict of interest prohibitions on asbestos abatement projects involving schools and single-family dwellings as exist for projects involving commercial buildings.*

Because asbestos is virtually invisible to the naked eye and because most lay people do not understand how to properly abate asbestos, the General Assembly has enacted certain safeguards with respect to detection of asbestos and final clearances of projects. In addition to establishing the qualifications of such individuals, section 25-7-503(1)(b)(V), C.R.S., establishes an independence requirement between the general abatement contractor and the AMS such that the AMS is an independent contractor who represents the building owner.

This independence is important because it ensures that the building owner's interests are represented in determining whether the space that has been abated it ready to be reoccupied. If the AMS, who makes such determinations, worked for the general abatement contractor that did the abatement work, the general abatement contractor could exert undue influence over the AMS to clear a project that perhaps should not be cleared. Public protection is enhanced by ensuring that these parties are independent of one another.

However, the independence requirement applies only to work done on public and commercial buildings. It does not apply to abatement projects in schools or single-family dwellings. These are two glaring omissions given that children are at a higher risk of developing asbestos-related diseases if they are exposed to asbestos from, for example, an improperly cleared school building. Additionally, occupants of single-family dwellings are consumers who likely have little or no knowledge of asbestos and asbestos abatement. To provide the protection of independence to owners of public and commercial buildings, but not to schools and homeowners is contrary to wise public policy.

Since independence between the AMS and the general abatement contractor is crucial to determining whether an asbestos abatement project has been done properly and may be cleared for re-occupancy, the General Assembly should amend section 25-7-503(1)(b)(V), C.R.S., to require such independence on all asbestos abatement projects, not just those performed in public and commercial buildings.

*Recommendation 4 – Clarify that section 25-7-508, C.R.S., applies to air monitoring specialists, as well as to all certificate holders who have been re-certified.*

Section 25-7-508(1), C.R.S., specifically allows a certification candidate who is denied certification to request a hearing. This provision enumerates the types of certification candidates that may request a hearing by listing the section numbers pursuant to which such candidates are seeking certification. However, AMS candidates are not included on the enumerated list. Similarly, any certificate holder seeking re-certification is not included. Therefore, the General Assembly should amend section 25-7-508(1), C.R.S., to include in the list of those who may request a hearing if their certifications are denied, AMS and any certificate holder seeking re-certification by including sections 25-7-506.5 and 25-7-507.5, C.R.S., in the enumerated list.

Similarly, section 25-7-508(2), C.R.S., authorizes the Division to issue a letter of admonition or to suspend, deny, revoke or place on probation the certificates of certain enumerated certificate holders for violating the Act. This provision enumerates the types of certifications that may be so disciplined by listing the section numbers pursuant to which such certifications were issued. Again, however, those who have renewed their certifications are not included on this list. Therefore, the General Assembly should amend section 25-7-508(2), C.R.S., to include those recertified pursuant to section 25-7-507.5, C.R.S.

*Recommendation 5 – Repeal statutorily established certification periods and allow the Unit to establish renewal cycles, and the need to retest, administratively.*

The second sunset criterion asks whether existing statutes and regulations constitute the least restrictive form of regulation consistent with the public interest.

Sections 25-7-506(2), 25-7-506.5(3) and 25-7-507.5(2)(b), C.R.S., direct that all certifications issued pursuant to the Act be valid for one, three or five years, at the discretion of the certificate holder. Furthermore, section 25-7-507.5(5)(b), C.R.S., requires certificate holders to attend refresher courses prior to renewal.

Additionally, EPA's Model Accreditation Plan (MAP) requires annual continuing education, but only recommends that states require retesting.

The Air Quality Control Commission (Commission) has determined, by rule, that certificate holders attend annual refresher courses and annually retest, regardless of the duration for which the certification has been renewed. As a practical matter, then, all certificate holders opt to renew their certifications annually.

Additionally, representatives of the Unit assert that it may be cost prohibitive for many certificate holders, particularly low-wage workers, to renew their certifications for more than one year at a time. It is easier, the Unit contends, for certificate holders to pay smaller sums annually, rather than a larger sum every few years.

Although nothing can be done regarding the need for annual refresher courses, because that requirement is established in the MAP, nothing in the MAP requires annual retesting. Unfortunately, since the Division has not historically tracked the pass/fail rates on the certification examinations, it is not possible to determine whether annual retesting is necessary to protect the public.

This is important because if the pass rates of those taking the various examinations as part of the renewal process were high, it would be reasonable to conclude that annual retesting is not necessary. If however, the Division staff's supposition proves accurate and pass rates for those taking the examinations for renewal are low, then annual retesting seems at least somewhat justified.

Therefore, this Recommendation 5 is made in conjunction with Administrative Recommendation 4, which can be found on page 39. Taken together, these two recommendations would require the Unit to track the pass rates for the various certification examinations and then establish, administratively, appropriate renewal cycles based on those pass rates. This would constitute a less restrictive form of regulation that still adequately protects the public.

This would benefit the regulated community by eliminating the need to retest annually. It would also allow the Unit to maximize the use of its resources by halting a practice that may no longer be necessary.

*Recommendation 6 – Repeal as obsolete the requirement that the Commission submit a report to the General Assembly regarding interpretations of "areas of public access" by November 2001.*

Section 25-7-502(1)(b), C.R.S., directs the Commission to:

> Establish a stakeholder process to review the definition of "area of public access" and send a report containing its recommendations, including statutory changes, if any, to the general assembly by November 1, 2001.

The Commission submitted its "Report to the General Assembly Regarding the Definition of 'Area of Public Access,'" on November 1, 2001. The report recommended maintaining the *status quo* with respect to the definition of "area of public access," noting that the current statutory definition, while less than perfect, is flexible enough so as to be made workable.

The General Assembly accepted the Commission's recommendation in 2001, and this sunset report makes no recommendation revisiting the issue.

Since the Commission submitted its report and since this sunset report does not advocate for any changes to the definition of "area of public access," the General Assembly should repeal section 25-7-502(1)(b), C.R.S., as obsolete.

*Recommendation 7 – Repeal as obsolete, section 25-7-502(8)(b), C.R.S., which exempts from the definition of "school," institutions operated and controlled by the Colorado Department of Human Services.*

Section 25-7-502(8), C.R.S., states:

> (a) "School" means any institution that provides elementary or secondary education.
>
> (b)(I) The term "school" shall not apply to those institutions operated and controlled by the department of human services.
>
> (II) The exclusion provided for in this paragraph (b) shall terminate on July 1, 1989, unless the capital development committee approves the plan filed by the department of human services in accordance with paragraph (c) of this subsection (8).

Prior to its repeal in 2005, paragraph (c) stated:

> (c) The department of human services shall file a report with the capital development committee prior to July 1, 1989, detailing their plan for asbestos abatement.

If the Colorado Department of Human Services (DHS) submitted the required plan to the Capital Development Committee (CDC), then for purposes of the Act, DHS institutions are not subject to the heightened requirements imposed on the state's other schools.

However, there is no evidence that this plan was ever submitted, let alone approved by CDC. Since the statutory deadline passed nearly 16 years ago, this provision is now obsolete.

For these reasons, the General Assembly should repeal sections 25-7-502(8)(b), C.R.S.

*Recommendation 8 – Amend the Act so as to refer to the proper citiations to the Code of Federal Regulations and so as to refer to Reg. 8 in general terms, rather than by specific provision.*

Several sections of the Act cite or refer to specific provisions in the *Code of Federal Regulations* (C.F.R.). However, over time, the C.F.R. provisions to which the Act refers have been renumbered, amended, or otherwise changed such that the references in the Act are no longer accurate.

Therefore, the General Assembly should update the Act with the current C.F.R. citations as follows:

> **§ 25-7-503(1)(a)(II)(A), C.R.S.**
> . . . in accord with 29 C.F.R. part ~~1910.1001, appendix a, protocols for phase contrast microscopy (PCM)~~ 1910.1000(d)(1)(i), Air Contaminants, Toxic and Hazardous Substances, Table Z-1.
>
> **§ 25-7-503(1)(a)(II)(B), C.R.S.**
> . . . in accord with 29 C.F.R. part ~~1910.1001, appendix a~~ 1910.1000(d)(1)(i), Air Contaminants, Toxic and Hazardous Substances, Table Z-1, before any order of abatement issued.

Similarly, the Act makes reference to a provision in Reg. 8, which has subsequently been renumbered. The amendment outlined here simply references Reg. 8 without any specific citation to avoid any necessity of having to make a similar amendment in the future. The General Assembly should update the Act to be consistent with Reg. 8 citations as follows:

> **§ 25-7-503(1)(e), C.R.S.**
> . . . in such standards and shall amend said term in ~~rules III.C.7.a(i), (i)(A), and (iv) of~~ part B of regulation 8 . . .

*Administrative Recommendation 1 – The CDPHE should take all steps necessary to ensure that the regulations being developed by the Hazardous Materials and Waste Management Division regarding abatement of asbestos in soils are consistent, to the greatest extent possible, with the Act and Reg. 8.*

At the time of this writing, the Hazardous Materials and Waste Management Division (Waste Management Division) was working on drafting regulations governing the abatement of asbestos-containing soils. This became necessary after it was discovered that, some 50 years earlier, the U.S. Air Force had buried ACM from demolished buildings at Lowry Air Force Base in Denver.

While this was not the first time asbestos contaminated soil needed to be abated, it sparked the CDPHE to promulgate definitive rules regarding acceptable practices. Prior to the promulgation of any rules, and at the time of this writing, the asbestos abatement industry has had to improvise on how to conduct soil abatement.

While most in the industry welcome the clarification that the Waste Management Division's regulations will provide, there is concern that these regulations will be inconsistent with Reg. 8, and the Act, both of which address abatement in buildings. Additionally, there is concern as to the science upon which the Waste Management Division will base its regulations.

Therefore, the CDPHE should endeavor to make the Waste Management Division's regulations regarding the abatement of asbestos contaminated soil consistent, to the greatest extent possible, with the Act and Reg. 8.

*Administrative Recommendation 2 – The Unit should increase education and outreach efforts to owners and occupants of single-family homes.*

In 2001, the General Assembly amended the Act to include single-family residential dwellings within the definition of "area of public access," thus bringing single-family homes under the jurisdiction of the Act. Recognizing that conducting an abatement project under the Act could pose a financial hardship to homeowners, the General Assembly also enacted an "opt-out" clause, whereby homeowners could opt to remove themselves from many of the provisions of the Act.

While estimates as to the number of homeowners opting out range anywhere from 50 percent to 80 percent, there is a dearth of information available to homeowners from the Unit. Rather, the opt-out form contains rather technical information concerning the costs associated with filing the opt-out form and the various statutory provisions that apply. It also requires a homeowner that is opting out to certify an understanding and consent that Reg. 8 will not apply to the abatement project in the homeowner's home, but does not provide any explanation as to what safeguards Reg. 8 offers.

To aid homeowners in deciding whether to opt out, the Division should develop pages on its website that provide more comprehensive information to homeowners regarding asbestos, what to expect from an abatement project and the advantages and disadvantages of opting out so that homeowners can make well-informed decisions.

*Administrative Recommendation 3 – The Unit should take steps to ensure that all certification examinations are psychometrically revalidated every five years. Concurrent with such revalidations, the Unit should also ensure that Spanish language examinations are presented in a dialect commonly spoken in Colorado.*

Recall that the Unit owns and administers its own certification examinations. Recall further that these examinations were psychometrically validated when they were created in 1990.

As state and federal laws and regulations have changed, Unit staff has updated the various examinations by adding test items, deleting test items and rewording test items. As a result, the examinations that are offered today may be very different than those that were psychometrically valid 15 years ago.

Psychometric validity is crucial to a state licensing or certification program. Psychometric validity helps to ensure, statistically, that test items are neither too difficult nor too easy, and that test items actually test for what they purport to test. In other words, psychometric validity helps to ensure that an examination is legally defensible should a candidate ever challenge the examination. Considering the due process implications of certification examinations, psychometric validity is crucial.

A second component of psychometric validity pertains to foreign language examinations. Recall that the worker and supervisor certification examinations are offered in both English and Spanish, and that the Spanish language dialect used in these examinations is inconsistent with the dialects most commonly spoken in Colorado. A question of psychometric validity arises when examination questions cannot be fully understood due to differences in language.

This problem could easily be rectified if the Spanish language examinations are retranslated when the examinations are revalidated. Appropriate measures should be taken to ensure that the Spanish dialect into which the examinations are retranslated is one that is commonly spoken in Colorado, as opposed to Georgia or Florida.

Since the certification examinations administered by the Unit were last psychometrically validated 15 years ago, since the test items have changed since then and since the Spanish language examinations are presented in a dialect that is not commonly spoken in Colorado, the Unit should undertake to revalidate all certification examinations and establish a procedure so that all certification examinations are psychometrically revalidated every five years. At the same time these revalidations are performed, Spanish language examinations should be rewritten in a dialect that is commonly spoken in Colorado.

*Administrative Recommendation 4 – The Unit should track pass/fail rates on all certification examinations and then establish certification renewal cycles as appropriate.*

The second sunset criterion asks whether existing regulation represents the least restrictive form of regulation consistent with the public interest. DORA is tasked with determining whether current regulations serve to enhance public protection without unnecessarily burdening the regulated community.

The Unit has not, historically, tracked the pass rates of the various certification examinations it administers. The data provided in Table 9 on page 18 regarding pass rates was derived from a sample time period. Additionally, this data does not represent the pass rates for first time test takers. Rather, the data contained in Table 9 represents the overall pass rates for all test takers, and since individuals may retake the examination until they pass, the numbers in Table 9 are artificially high.

However, the degree to which they may be inaccurate is impossible to determine. Therefore, the Unit should begin tracking the pass rates for first time test takers, including those taking the examinations for recertification, to determine the true pass rates.

With this information, the Unit should then determine whether retesting is necessary for recertification and if it is, how frequently retesting should be done. If the pass rates are high, retesting certificate holders on an annual basis does little or nothing to enhance public protection, and such requirements should be eliminated so as to present a less restrictive form of regulation.

If, on the other hand, pass rates are low, indicating that even those who have passed the examinations in the past have a hard time re-passing, then perhaps frequent retesting actually does serve to enhance public protection by ensuring that practitioners are up to date on how to safely abate asbestos.

Since the current practice of requiring annual retesting, regardless of the length of time for which a certificate holder renews his/her certification may be unduly burdensome, the Unit should track pass rates on all examinations and then establish renewal cycles consistent with such pass rates.

*Administrative Recommendation 5 – The Unit should revise the Permit Application Form to solicit the name of the firm that will perform the final clearance on a project and require a post-clearnace attestation that a certified AMS performed the final clearance.*

The Permit Application Form currently requires an applicant to provide the name, telephone number and certification number of the certified AMS that will conduct the project's final clearance. While this seems reasonable at first blush, it is problematic.

Typically, an asbestos consulting firm will contract with the building owner to perform the final clearance, and that firm may employ several AMS. At the time of permit application, which is necessarily weeks or even months before the final clearance is to be performed, the firm cannot definitively determine which of its AMS employees will conduct the final clearance on any given project. Therefore, the Permit Application Form solicits information that is widely acknowledged to be inaccurate almost from the moment it is submitted.

Because projects sometimes are completed ahead of schedule, it is not at all uncommon for a general abatement contractor to call the consultant to request a final clearance with only a few hours' notice. As a result, the AMS who had originally been scheduled to conduct the final clearance for that particular project may be unavailable at the new time.

Since the abated space cannot be reoccupied until it receives its final clearance, general abatement contractors are eager to have the final clearance performed as quickly as possible so as to conclude the job and move on to the next project. Likewise, building owners want to reoccupy their space as quickly as possible. This forces the consulting firm to send an AMS other than the AMS indicated on the Permit Application Form.

The Unit acknowledges this problem but defends the Permit Application Form by asserting that it needs some assurance that the final clearance will be conducted by a certified AMS.

One possible solution to this problem is to amend the Permit Application Form so as to solicit the name of the firm that will conduct the final clearance. Since there is no guaranty now that the person indicated on the Permit Application Form will conduct the final clearance, providing the name of firm, rather than the individual AMS, will actually provide more accurate information to the Unit.

Since the information solicited in the Permit Application Form is virtually impossible to determine at the time of permitting, the Unit should redesign the Permit Application Form to solicit the name of the firm that will perform the final clearance, rather than the name of the specific AMS. If the Unit is truly concerned that non-certified personnel will perform the final clearances, which would jeopardize the certifications of all parties involved, then the Unit should require the submission, after the fact, of the name and certification number of the certified AMS who actually performed the final clearance. This would also serve to notify the Unit that the abatement project has been completed.

*Administrative Recommendation 6 – The Unit should redesign the manner in which it makes available to the public, the names of certificate holders against which disciplinary action is pending or has already been taken.*

Recall from Table 17 on page 26 that it typically takes the Unit over one year to close a case once opened. While this length of time is disturbing enough, even more disturbing, from the perspective of the certificate holder being investigated, is the fact that the pending status of such cases are posted on the Unit's website.

Worse, the website offers no explanation as to what the certificate holder is accused of having done and in the cases where the Unit disciplines a certificate holder, the website is revised to report "guilty" without further elaboration. Members of the regulated community reported to DORA during the course of this sunset review that this can be catastrophic for their business.

While it is certainly in the public interest for such information to be available, this is an example of where a little information can do more damage than full disclosure. The Unit should continue to make such information available, thereby permitting members of the public to research the general abatement contractors and AMS they consider hiring. However, the manner in which this information is presented should be revised.

Rather than posting a list of all certificate holders that have been disciplined or that have cases against them pending, the Unit should develop and interactive web-tool whereby a member of the public can search the Unit's records by name or certification number. Tied to these records should be information relating to the complaint(s) that are pending, as well as to the violations resulting in disciplinary action and of what that disciplinary action consisted.

*Administrative Recommendation 7 – The Unit should develop and offer classes to certificate holders and their employees on how to write permit and variance applications.*

Recall from the discussion in Recommendation 1 of this sunset report that one of the primary complaints levied against the Unit relates to consistency. While the discussion in Recommendation 1 focused primarily on inconsistent answers provided to questions, the consistency issue also encompasses the granting of permits and variances.

Unit staff maintains that many certificate holders simply do not know or understand how to prepare a comprehensive permit or variance application. Unit staff further estimates that it spends anywhere from 20 minutes to several hours in follow up conversations with permit and variance applicants, trying to find resolutions to issues that should have been addressed in the permit or variance application.

Therefore, in the interest of conserving the Unit's limited resources, as well as in the interest of providing the regulated community with additional information, the Unit should develop and present classes on how to write a successful and complete permit and variance application.

Logically, if the regulated community is informed of the type of information the Unit's staff expects to see in such applications, such information will be provided and the entire permit and variance application process can be expedited. This will allow Unit staff to perform other duties, such as inspections. It will also enable those who prepare and submit permit and variance applications to present complete information, thereby speeding the process.

The Unit should develop and offer classes on how to write complete permit and variance applications.

## *Appendix A – Sunset Statutory Evaluation Criteria*

(I) Whether regulation by the agency is necessary to protect the public health, safety and welfare; whether the conditions which led to the initial regulation have changed; and whether other conditions have arisen which would warrant more, less or the same degree of regulation;

(II) If regulation is necessary, whether the existing statutes and regulations establish the least restrictive form of regulation consistent with the public interest, considering other available regulatory mechanisms and whether agency rules enhance the public interest and are within the scope of legislative intent;

(III) Whether the agency operates in the public interest and whether its operation is impeded or enhanced by existing statutes, rules, procedures and practices and any other circumstances, including budgetary, resource and personnel matters;

(IV) Whether an analysis of agency operations indicates that the agency performs its statutory duties efficiently and effectively;

(V) Whether the composition of the agency's board or commission adequately represents the public interest and whether the agency encourages public participation in its decisions rather than participation only by the people it regulates;

(VI) The economic impact of regulation and, if national economic information is not available, whether the agency stimulates or restricts competition;

(VII) Whether complaint, investigation and disciplinary procedures adequately protect the public and whether final dispositions of complaints are in the public interest or self-serving to the profession;

(VIII) Whether the scope of practice of the regulated occupation contributes to the optimum utilization of personnel and whether entry requirements encourage affirmative action;

(IX) Whether administrative and statutory changes are necessary to improve agency operations to enhance the public interest.

# Appendix B – Training Requirements by Certification Type

| | Worker | Supervisor | Project Designer | Inspector | Management Planner | Air Monitoring Specialist |
|---|---|---|---|---|---|---|
| Physical characteristics of asbestos and ACM | X | X | X | X | | X |
| Potential health effects related to asbestos exposure | X | X | X | X | | |
| Safety and health issues other than asbestos | | | | | | X |
| Personal protective equipment | X | X | X | X | | X |
| State-of-the art work practices | X | X | | | | |
| Personal hygiene | X | X | | | | |
| Additional safety hazards | X | X | X | | | |
| Medical monitoring | X | X | | | | |
| Air monitoring | X | X | | | | X |
| Relevant regulatory requirements | X | X | X | X | X | X |
| Respiratory protection and medical monitoring programs | X | X | | | | |
| Insurance and liability issues | | X | | | | |
| Legal liabilities and defenses | | | X | X | X | X |
| Recordkeeping | | X | | X | X | X |
| Supervisory techniques | | X | | | | |
| Contracts | | X | X | | | X |
| Functions, qualifications and role of inspectors | | | | X | | |
| Understanding building systems | | | | X | | X |

| | Worker | Supervisor | Project Designer | Inspector | Management Planner | Air Monitoring Specialist |
|---|---|---|---|---|---|---|
| Public, employee and building occupant relations | | | X | X | | |
| Pre-inspection planning and review of previous inspection records | | | | X | | |
| Inspecting for friable and non-friable ACM and assessing the condition of friable ACM | | | | X | | |
| Bulk sampling and documentation of asbestos | | | | X | | |
| Field trip | | | X | X | X | |
| Evaluation and interpretation of survey results | | | | | X | |
| Hazard assessment | | | | | X | |
| Evaluation and selection of control options | | | | | X | |
| Roles of other professionals | | | X | | X | |
| Developing an operations and maintenance plan | | | | | X | |
| Assembling and submitting the management plan | | | | | X | |
| Financing abatement actions | | | | | X | |
| Overview of abatement construction projects | | | X | | | |
| Safety system design specifications | | | X | | | |

| | Worker | Supervisor | Project Designer | Inspector | Management Planner | Air Monitoring Specialist |
|---|---|---|---|---|---|---|
| Fiber aerodynamics and control | | | X | | | |
| Designing abatement solutions | | | X | | | |
| Final clearance process | | | X | | | |
| Budgeting and cost estimating | | | X | | | |
| Writing abatement specifications | | | X | | | |
| Preparing abatement drawings | | | X | | | |
| Replacement of asbestos | | | X | | | |
| Roles and responsibility of AMS | | | | | | X |
| Response actions and abatement practices | | | | | | X |
| Asbestos abatement equipment | | | | | | X |
| Conducting visual inspections | | | | | | X |
| Number of Required Days of Training | 4 | 5 | 3 | 3 | 2 | 4 |

ACM = Asbestos-containing material
AMS = Air Monitoring Specialist