DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Air Quality Control Commission

REGULATION NUMBER 8

CONTROL OF HAZARDOUS AIR POLLUTANTS

5 CCR 1001-10

PART A. Federal NESHAPs

I. Federal NESHAPs

The provisions of Part 61, Chapter I, Title 40, of the Code of Federal Regulations (CFR), promulgated by the U.S. Environmental Protection Agency listed in this section are hereby incorporated by reference by the Air Quality Control Commission and made a part of the Colorado Air Quality Control Commission Regulations. Materials incorporated by reference are those in existence as of the dates indicated and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80246, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission.

All new sources of air pollution and all modified or reconstructed sources of air pollution shall comply with the standards, criteria, and requirements set forth herein.For the purpose of this regulation "Administrator" shall mean both the Administrator of the Environmental Protection Agency or his/her authorized representative and the Colorado Air Pollution Control Division.

Subpart A General provisions (including 51 Federal Register 12429 -12430, March 16, 1994), 40 C.F.R. Part 61 (July 1, 1995), and as amended on February 12, 1999 (64 FR 7458), October 17, 2000 (65 FR 61744), and December 14, 2000 (65 FR 78268).

Subpart B National Emission Standards for Radon Emissions from Underground Uranium Mines 40 C.F.R. Part 61 (July 1, 1998)

Subpart C National Emission Standard for Beryllium 40 C.F.R. Part 61 (July 1, 1998)

Subpart D National Emission Standard for Beryllium Rocket Motor Firing 40 C.F.R. Part 61 (July 1, 1998)

Subpart E National Emission Standard for Mercury 40 C.F.R. Part 61 (July 1, 1998)

Subpart F National Emission Standard for Vinyl Chloride 40 C.F.R. Part 61 (July 1, 1998)

Subpart H National Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy Facilities 40 C.F.R. Part 61 (July 1, 1998), and as amended on September 9, 2002 (67 FR 57159).

Subpart J National Emission Standard for Equipment leaks (fugitive Emission sources) of Benzene 40 C.F.R. Part 61 (July 1, 1998), and as amended on December 14, 2000 (65 FR 78268).

Subpart K National Emission Standards for Radionuclide Emissions from Elemental Phosphorous Plants 40 C.F.R. Part 61 (July 1, 1998)

Subpart L National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants 40 C.F.R. Part 61 (July 1, 1998)

Subpart N National Emission Standard for Inorganic Arsenic Emissions from Glass Manufacturing Plants 40 C.F.R. Part 61 (July 1, 1998)

Subpart O National Emission Standard for Inorganic Arsenic Emissions from Primary Copper Smelters 40 C.F.R. Part 61 (July 1, 1998)

Subpart P National Emission Standard for Inorganic Arsenic Emissions from Arsenic Trioside and Metallic Arsenic Production Facilities 40 C.F.R. Part 61 (July 1, 1998)

Subpart Q National Emission Standards for Radon Emissions From Department of Energy Facilities 40 C.F.R. Part 61 (July 1, 1998)

Subpart R National Emission Standards for Radon Emissions from Phosphogypsum Stacks, 40 C.F.R. Part 61 (July 1, 1998) and as amended on February 3, 1999 (64 FR 5574).

Subpart T National Emission Standards for Radon Emissions from the Disposal of Uranium Mill Tailings 40 C.F.R. Part 61 (July 1, 1998)

Subpart V National Emission Standard for Equipment Leaks (fugitive Emission Sources) 40 C.F.R. Part 61 (July 1, 1998), and as amended on December 14, 2000 (65 FR 78268).

Subpart W National Emission Standards for Radon Emissions from Operating Mill Tailings 40 C.F.R. Part 61 (July 1, 1998)

Subpart Y National Emission Standard for Benzene Emissions from Benzene Storage Vessels 40 C.F.R. Part 61 (July 1, 1998), and as amended on December 14, 2000 (65 FR 78268).

Subpart BB National Emission Standard for Benzene Emissions from Benzene Transfer Operations 40 C.F.R. Part 61 (July 1, 1998)

Subpart FF National Emission Standard for Benzene Waste Operations 40 C.F.R. Part 61 (July 1, 1998), as amended on November 12, 2002 (67 FR 68526) and December 4, 2003 (68 FR 67932).

II. Statements of Basis, Specific Statutory Authority and Purpose for Part A

II.A. September 21, 1995, Emergency Rule with Part E

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA authority to establish national standards to reduce air toxics from sources that emit such pollutants.

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides the authority to promulgate regulations that are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(i)(b) and 25-7-109(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Authority for emergency rule making is found in the Colorado Air Quality Control Act; Section 25-7-109.1 provides that the Commission shall have the authority to adopt emergency rules under

the rule making procedure. The Commission finds that there is an emergency. This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide a complete operating permits program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

II.B. October 19, 1995, Radionuclide NESHAPS

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title II, section 112 of the Act was amended to give the EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations that are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(1)(i)(b) and 25-7-109(2)(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103 (12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Section 25-7-109.1 provides specific authority for the emergency adoption of Federal regulations adopted pursuant to section 112 of the federal act and which modify or adopt MACT or GACT for new or existing sources. The revisions proposed reinstate in Colorado Regulations a Federal MACT standard promulgated by EPA under section 112.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide a complete operating permit program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

Existing EPA Agreements

Subpart H of 40 CFR61 is EPA's national standard that regulates non-radon radionuclide emissions from Department of Energy (DOE) facilities. As allowed under this rule, EPA has approved an alternative emission monitoring protocol and has entered into a memorandum of understanding with DOE that further clarifies the methodology. In addition, DOE and EPA Region VIII have reached additional agreements regarding the implementation of this alternative methodology, which agreements DOE has memorialized in a letter. Each of these documents is a part of the record in this rulemaking. In adopting by reference 40 CFR 61, Subpart H, the Commission recognizes and accepts these agreements and approvals for use as an approved alternative methodology in Colorado.

II.C. December 21, 1995 (Section III.B - National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the

EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants.

The Commission in 1994 originally adopted the Federal MACT for Percholorethylene dry cleaning facilities. Legislative Legal Services in their 1994 review of Colorado regulation identified the adoption of the Dry Cleaning MACT as having an incorrect citation to the Federal Register rather than the Code of Federal Regulations (CFR). Because of this deficiency Regulation No. 8 Part A was allowed to sunset. These changes correct the identified deficiency.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations that are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(1)(i)(b) and 25-7-109(2)(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103 (12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide a complete operating permit program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

II.D. July 15, 1999

Incorporation by Reference of Federal Amendments to 40 C.F.R. part 61, subparts A and R, and part 63, subparts A, F, G, H, I, O, S, T, X, and JJ, and Federal standards in 40 C.F.R., part 63, subparts OO and PP into Colorado Air Quality Control Commission Regulation No. 8, Parts A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following standards: 40 C.F.R. parts 61 and 63 General Provisions, Radon Emissions from Phosphogypsum Stacks, Hazardous Organic, Halogenated Solvent Degreasing, Ethylene Oxide Sterilization, Secondary Lead Smelting, Wood Furniture Manufacturing, and Pulp and Paper Production NESHAPs. In addition, EPA has

promulgated standards in 40 C.F.R. Part 63, subparts OO and PP that have never been adopted by the State. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and current standards into its regulations. This rulemaking adopts these revisions to the NESHAPs and current NESHAPs.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of amendments to 40 C.F.R. part 61, subparts A and R, and part 63, subparts A, F, G, H, I, O, S, T, X, and JJ, and current standards in 40 C.F.R. part 63, subparts OO and PP will make these revised NESHAPs and current NESHAPs enforceable under Colorado law. Adoption of the amendments will not impose upon sources additional requirements beyond the minimum required by Federal law, and may benefit the regulated community by providing sources with up-to-date information.

II.E. November 18, 1999

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). Part 61 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs).

Basis

The update to the CFR references brings the Regulation No. 8 Part A references up to the most recent Government Printing Office publication. This allows the public the ability to use the most recently published versions available.

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

These changes provide a more user-friendly regulation.

1. The Commission has considered, and has based its decision, on the reasonably available, validated, reviewed and sound scientific methodologies and information made available by interested parties.

2. Evidence in the record supports the conclusion that the operating limitations adopted will result in a demonstrable reduction in air pollution when taken in conjunction with the Federal New Source Performance Standard.

3. The alternative selected maximizes the air quality benefits of the emissions standards applicable.

II.F. June 21, 2001

Incorporations by reference of Federal Amendments to 40 C.F.R. parts 61 and 63, and a New Federal Standard in 40 C.F.R. part 63 into Regulation No. 8, Parts A and E

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following: (1) the General Provisions contained in 40 C.F.R. Parts 61 and 63, Subpart A; (2) current 40 C.F.R. Part 61 NESHAPs for the Synthetic Organic Chemical Manufacturing Industry, and current 40 C.F.R. Part 63 NESHAPs for Hazardous Organic, Epoxy Resins and Non-nylon Polyamides Production, Polyether Polyols Production, Halogenated Solvent Cleaning, Aerospace Manufacturing and Rework facilities, Groups I and IV Polymers and Resins Production, Offsite Waste and Recovery Operations, Containers, Pulp and Paper Production, Pharmaceutical Production, and Hazardous Waste Combustion. In addition, the EPA has promulgated the following new standard: 40 C.F.R. Part 63, Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills. Also, the EPA has promulgated an interpretative rule to 40 C.F.R. Part 63, Subpart B, Construction and Reconstruction of Major Sources. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to 40 C.F.R. Parts 61 and 63, and new federal standard in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Adoption of these revisions will not impose upon sources additional requirements beyond the minimum required by federal law, and may benefit the regulated community by providing sources with up-to-date information.

II.G. Statement of Basis, Specific Statutory Authority and Purpose June 19, 2003

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Parts 61 and 63 into Regulation No. 8, Parts A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 61 NESHAPs for: Emissions of Radionuclides Other than Radon From Department of Energy Facilities and Benzene Waste Operations. In addition, the EPA has promulgated revisions to the following current 40 C.F.R. Part 63 standards for: Generic Maximum Achievable Control Technology, Hazardous Waste Combustors, Portland Cement Manufacturing, Pesticide Active Ingredient Production, Secondary Aluminum Production, and Publicly Owned Treatment Works. The EPA has also promulgated the following new 40 C.F.R. Part 63 standards for: Municipal Solid Waste Landfills, Paper and Other Web Coating, and Friction Materials Manufacturing Facilities. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Parts 61 and 63 will make these revisions enforceable under Colorado law.

Statement of Basis, Specific Statutory Authority and Purpose

II.H July 15, 2004

Incorporations by Reference of Federal Amendments of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards and new standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and – 109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

PART B. Asbestos Control

All underlined text in this regulation indicates defined terms.

I. INCORPORATED MATERIAL STATEMENT; DEFINITIONS

I.A. INCORPORATED MATERIALS

Some documents are noted in this regulation as being incorporated by reference. Materials incorporated by reference are those in existence as of the dates indicated and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80246-1530, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission. The following materials are herein incorporated by reference:

I.A.1. United States Environmental Protection Agency's Asbestos Hazard Emergency Response Act (AHERA), (1995) Subpart E, 40 C.F.R. Part 763, section 1, and Appendix E to Subpart E.

I.A.2. United States Environmental Protection Agency's Asbestos Hazard Emergency Response Act (AHERA) Model Accreditation Plan (MAP), 40 C.F.R. Part 763 (1994), Subpart E, Appendix C.

I.A.3. United States Environmental Protection Agency's National Emission Standard for Asbestos, Standard For Waste Disposal For Manufacturing, Fabricating, Demolition, Renovation, And Spraying Operations, 40 C.F.R. Part 61 Section 150 (1995).

I.A.4. United States Environmental Protection Agency's August 1994 Method EPA/600/R-93/116, “Method for the Determination of Asbestos in Bulk Building Materials”.

I.A.5. United States Environmental Protection Agency's “Green Book”, Managing Asbestos in Place, (TS-799) 20T-2003, Appendix G (1990).

I.A.6. United States Environmental Protection Agency's “Pink Book”, Simplified Sampling Scheme for Friable Surfacing Materials, (EPA 560/5-85-030a) (1985).

I.A.7. National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, second supplement, August 1987.

I.A.8. Occupational Safety and Health Administration (OSHA) Regulation “Asbestos”, 29 C.F.R. Part 1910.1001, Appendix A (OSHA 1987).

I.B. DEFINITIONS

All terms used in this Regulation No. 8, Part B, and that are not defined below are given the same meaning as in the definitions in Regulation No. 8, Part A section (I.D.), and the common provisions regulation:

I.B.1. Accessible when referring to ACM means that the material is subject to disturbance by school or building occupants or custodial or maintenance personnel in the course of their normal activities.

I.B.2. Act means C.R.S. sections 25-7-101 et seq., concerning the control of asbestos.

I.B.3. Adequately wet means sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material, then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet.

I.B.4. Air erosion means the passage of air over friable ACBM, which may result in the release of asbestos fibers.

I.B.5. Airlock means a system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area.

I.B.6. Air monitoring means measuring the fiber content of a known volume of air collected over a known period of time.

I.B.7. Air Monitoring Specialist means a person who performs final visual clearance inspections or any air monitoring referred to in this regulation.

I.B.8. Amended water means water to which a surfactant has been added.

I.B.9. Area of Public Access

I.B.9.a. Area of Public Access means any building, facility, or property, or only that portion thereof, that any member of the general public can enter without limitation or restriction by the owner or lessee under normal business conditions; except that “Area of Public Access” includes a single-family residential dwelling and any facility that charges the general public a fee for admission such as any theater or arena. “General Public” does not include employees of the entity that owns, leases, or operates

such building, facility, or property, or such portion thereof, or any service personnel or vendors connected therewith.

I.B.9.b. Notwithstanding the provisions of section I.B.9.a., a single-family residential dwelling shall not be considered an area of public access for purposes of this Regulation No. 8, Part B, if the homeowner who resides in the single-family residential dwelling that is the homeowner's primary residence requests, pursuant to section III.E.2., that the single-family residential dwelling not be considered an area of public access.

I.B.10. Asbestos means asbestiform varieties of chrysotile, amosite (cummintonite-grunerite), crocidolite, anthophyllite, tremolite, and actinolite.

I.B.11. Asbestos Abatement means any of the following:

I.B.11.a. The wrecking or removal of structural members that contain friable asbestos-containing material;

I.B.11.b. The following practices intended to prevent the escape of asbestos fibers into the atmosphere:

I.B.11.b.i. Coating, binding, or resurfacing of walls, ceilings, pipes, or other structures for the purpose of minimizing friable asbestos-containing material from becoming airborne;

I.B.11.b.ii. Enclosing friable asbestos-containing material to make it inaccessible;

I.B.11.b.iii. Removing friable asbestos-containing material from any pipe, duct, boiler, tank, reactor, furnace, or other structural member.

I.B.11.b.iv. Removing facility components that are asbestos covered or asbestos containing.

I.B.12. Asbestos Abatement Contractor means any person hired to conduct asbestos abatement.

I.B.13. Asbestos Consulting Firm means any person hired for a fee to conduct any of the following activities, as required by regulation Number 8, Part B, in the state of Colorado: asbestos building inspection and bulk sampling; development of asbestos management plans; air monitoring for asbestos fibers; development of asbestos project designs; and, project management, as specified in Section II.J.

I.B.14. Asbestos Laboratory means any person hired for a fee to conduct asbestos analysis of bulk or air samples, as required by Regulation Number 8, Part B, in the state of Colorado.

I.B.15. Asbestos Training Provider means any person who puts on training courses in any of the following asbestos disciplines in the state of Colorado: worker, supervisor, project designer, building inspector, management planner or air monitoring specialist.

I.B.16. Asbestos-containing building material means surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school building or state building.

I.B.17. Asbestos-containing material means material containing more than 1% asbestos.

I.B.18. Asbestos-containing waste material means mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this Regulation. This term includes, but is not limited to, asbestos waste from control devices, friable asbestos-containing waste material, disposable equipment and clothing, and bags or other similar packaging contaminated with commercial asbestos.

I.B.19. Asbestos debris means pieces of ACM that can be identified by color, texture, or composition, or means dust, if the dust is determined by a certified Inspector to be ACM.

I.B.20. Asbestos mill means any facility engaged in converting, or in any intermediate step in converting, asbestos ore into commercial asbestos. Outside storage of asbestos-containing material is not considered a part of the asbestos mill.

I.B.21. Asbestos spill means any release of asbestos fibers due to a breach of the containment barrier on an abatement project, or due to any cause other than asbestos abatement.

I.B.22. Asbestos tailings mean any solid waste that contains asbestos and is a product of asbestos mining or milling operation.

I.B.23. Assessment, when used in reference to ACM in a state building, means any evaluation of ACM, or suspected ACM, which determines the need for a response action.

I.B.24. Category I nonfriable asbestos-containing material means asbestos-containing packing, gaskets, resilient floor covering, and asphalt roofing products containing more than1 percent asbestos as determined using the method specified in Appendix E, Subpart E, 40 C.F.R. Part 763, section 1, polarized light microscopy (EPA 1995).

I.B.25. Category II nonfriable ACM means any material, excluding category Inonfriable ACM, containing more than 1 percent asbestos as determined using the methods specified in Appendix E, Subpart E, 40 C.F.R. Part 763, section 1, polarized light microscopy, (EPA 1995) that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure.

I.B.26. Certified means holding a certificate issued pursuant to this regulation.

I.B.27. Certified Industrial Hygienist means an individual who has been certified by the American Board of Industrial Hygiene to practice as a CIH.

I.B.28. Clean Room means an uncontaminated area or room, which is a part of the Worker decontamination enclosure system with provisions for storage of Workers' street clothes and clean protective equipment.

I.B.29. Commercial asbestos means any material containing asbestos that is extracted from ore and has value because of its asbestos content.

I.B.30. Commission means the Colorado Air Quality Control Commission.

I.B.31. Critical Barrier means a single layer of 6-mil or greater polyethylene sheeting or an equivalent airtight barrier installed initially over all doors, windows, ventilation openings, drains, wall penetrations, etc., as an additional measure to prevent contaminated air from escaping the work area.

I.B.32. Curtained Doorway means a device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms.

I.B.33. Cutting means to penetrate with a sharp-edged instrument and includes sawing, but does not include shearing, slicing, or punching.

I.B.34. Damaged friable miscellaneous ACM means friable miscellaneous ACM which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or, if applicable, which has delaminated such that its bond to the substrate (adhesion) is inadequate or which for any other reason, lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

I.B.35. Damaged friable surfacing ACM means friable surfacing ACM, which has deteriorated or sustained physical injury such that the internal structure (cohesion) of the material is inadequate or which has delaminated such that its bond to the substrate (adhesion) is inadequate, or which, for any other reason lacks fiber cohesion or adhesion qualities. Such damage or deterioration may be illustrated by the separation of ACM into layers; separation of ACM from the substrate; flaking, blistering, or crumbling of the ACM surface; water damage; significant or repeated water stains, scrapes, gouges, mars or other signs of physical injury on the ACM. Asbestos debris originating from the ACBM in question may also indicate damage.

I.B.36. Damaged or significantly damaged thermal system insulation ACM means thermal system insulation ACM on pipes, boilers, tanks, ducts, and other thermal system insulation equipment where the insulation has lost its structural integrity, or its covering, in whole or in part, is crushed, water-stained, gouged, punctured, missing, or not intact such that it is not able to contain fibers. Damage may be further illustrated by occasional punctures, gouges or other signs of physical injury to ACM; occasional water damage on the protective coverings/jackets; or exposed ACM ends or joints. Asbestos debris originating from the ACBM in question may also indicate damage.

I.B.37. Decontamination enclosure system means a series of three (minimum) connected rooms, separated from the work area and from each other by air locks or curtained doorways, for the decontamination of Workers and equipment.

I.B.38. Demolition means the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations or the intentional burning of any facility.

I.B.39. Division means the Colorado Air Pollution Control Division.

I.B.40. Emergency means an unexpected situation or sudden occurrence of a serious and urgent nature that demands immediate action and that constitutes a threat to life, health or that may cause major damage to property. Delay of a contract does not constitute an emergency, nor are demolition projects emergencies.

I.B.41. Encapsulation means application of a liquid material to asbestos-containing material which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

I.B.42. Enclosure means an airtight, impermeable, permanent barrier around ACM to minimize the release of asbestos fibers into the air.

I.B.43. Equipment room means a contaminated area or room, which is part of the Worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.

I.B.44. Fabricating means any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In the case of friction products, fabricating includes bonding, rebonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating.

I.B.45. Facility means any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative, but excluding residential buildings having four or fewer dwelling units); any ship; and any active or inactive waste disposal site. For purposes of the definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function.

I.B.46. Facility component means any part of a facility including equipment.

I.B.47. Fiber release episode means any uncontrolled or unintentional disturbance of ACM resulting in visible emissions.

I.B.48. Final cleaning means the cleaning of all dust and debris from the work area near the end of the active abatement phase, immediately prior to the final visual inspection.

I.B.49. Fixed object means a piece of equipment or furniture in the work area, which cannot be readily removed from the work area.

I.B.50. Friable means that the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such previously nonfriable material becomes damaged to the extent that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

I.B.51. Friable asbestos containing material means 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. The term includes nonfriable forms of asbestos after such previously nonfriable material becomes damaged to the extent that when dry it can be crumbled, pulverized, or reduced to powder by hand pressure.

I.B.52. Functional space means a room, group of rooms, or homogeneous area (including crawl spaces or the space between a dropped ceiling and the floor or roof deck above), such as a classroom(s), a cafeteria, gymnasium, hallways, designated by a person certified to prepare management plans, design abatement projects, or conduct response actions.

I.B.53. Glovebag means a manufactured or fabricated device, typically constructed of six mil transparent polyethylene or polyvinylchloride plastic, consisting of two inward projecting long sleeves with attached gloves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste.

I.B.54. Grinding means to reduce to powder or small fragments and includes mechanical chipping or drilling.

I.B.55. HEPA filtration means a filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 microns in diameter or larger.

I.B.56. HEPA vacuum means a vacuum system approved by the manufacturer for use in asbestos applications equipped with HEPA filtration.

I.B.57. Homogeneous area means an area of surfacing material, thermal system insulation material, or miscellaneous material that is uniform in color and texture.

I.B.58. Independent means that a person is not an employee, agent, representative, partner, joint venture, shareholder, parent or subsidiary company of another person.

I.B.59. Large contiguous facility complex means a complex that has a single owner and have 3 or more buildings on a single property or adjoining properties.

I.B.60. Local education agency (LEA) means:

I.B.60.a. Any local educational agency as defined in section 198 of the Elementary and Secondary Education Act of 1965 (20 U.S.C. 3381).

I.B.60.b. The owner or operator of any nonpublic, nonprofit, elementary, or secondary school building.

I.B.60.c. The governing authority of any school building operated under the Defense Department's education system provided for under the Defense Department's Education Act of 1978 (20 U.S.C. 921, et seq.).

I.B.61. Manufacturing means the combining of commercial asbestos-or, in the case of woven friction products, the combining of textiles containing commercial asbestos - with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing.

I.B.62. Mini-enclosure means any containment barrier small enough to restrict entry to the asbestos work area to no more than two Workers, constructed around an area where small-scale, short-duration asbestos abatement is to be performed.

I.B.63. Miscellaneous ACM means miscellaneous material that is ACM.

I.B.64. Miscellaneous material means interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

I.B.65. Movable objects means pieces of equipment or furniture in the work area, which can be readily removed from the work area.

I.B.66. Negative pressure ventilation system means portable exhaust systems equipped with HEPA filtration and capable of maintaining a constant high velocity air flow out of the contaminated area, resulting in a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas.

I.B.67. Nonfriable means material which, when dry, may not be crumbled, pulverized, or reduced to powder by hand pressure.

I.B.68. Operations and maintenance program means a program of work practices to maintain friable ACBM in good condition, ensure clean up of asbestos fibers previously released, and prevent further release by minimizing and controlling friable ACBM disturbance or damage.

I.B.69. Particulate asbestos material means finely divided particles of asbestos or material containing asbestos.

I.B.70. Person means any individual, any public or private corporation, partnership, association, firm, trust, or estate, the state or any department, institution, or agency thereof, any municipal corporation, county, city and county, or other political subdivision of the state, or any other legal entity, which is recognized by law as the subject of rights and duties.

I.B.71. Phase Contrast Microscopy is an analytical technique used for the counting of fibers on a filter of an air sample. This technique is not specific for asbestos.

I.B.72. Polarized Light Microscopy is an analytical technique used for identifying types of asbestos fibers in bulk material samples.

I.B.73. Porous means capable of trapping, retaining or holding asbestos fibers even during aggressive cleaning methods such as wet washing, wiping and HEPA vacuuming.

I.B.74. Potential damage means circumstances in which:

I.B.74.a. Friable ACBM is in an area regularly used by building occupants including maintenance personnel, in the course of their normal activities.

I.B.74.b. There are indications that there is a reasonable likelihood that the material or its covering will become damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

I.B.75. Potential significant damage means circumstances in which:

I.B.75.a. Friable ACBM is in an area regularly used by building occupants, including maintenance personnel, in the course of their normal activities.

I.B.75.b. There are indications that there is a reasonable likelihood that the material or its covering will become significantly damaged, deteriorated, or delaminated due to factors such as changes in building use, changes in operations and maintenance practices, changes in occupancy, or recurrent damage.

I.B.75.c. The material is subject to major or continuing disturbance, due to factors including, but not limited to, accessibility or, under certain circumstances, vibration or air erosion.

I.B.76. Pre-cleaning means the cleaning of the work area of visible dust and debris prior to active abatement.

I.B.77. Preventive measures mean actions taken to reduce disturbance of ACBM or otherwise eliminate the reasonable likelihood of the materials becoming damaged *or* significantly damaged.

I.B.78. Project Design means plans, specifications, project procedures, containment design/placement, descriptions of engineering controls, and shop drawings for an asbestos abatement project or response action.

I.B.79. Public and Commercial Building means any building, which is not a school building, except that the term does not include any residential apartment building of ten or fewer units. Single-family residential dwellings are excluded from this definition. This definition includes all industrial buildings.

I.B.80. Regulated asbestos-containing material means (a) friable asbestos-containing material, (b) Category I nonfriable ACM that has become friable, (c) Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or (d) Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by this regulation.

I.B.81. Removal means the taking out or the stripping of ACBM from a damaged area, a functional space, or a homogeneous area in a building.

I.B.82. Renovation means altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded. Examples of renovation work include replacement or repair of mechanical ventilation systems, pipes, ceilings, walls, flooring (including floor tiles), and insulating materials.

I.B.83. Repair means returning damaged ACBM to an undamaged condition or to an intact state so as to prevent fiber release.

I.B.84. Resilient Floor Tile means tile, which may include vinyl asbestos tile (VAT), asphalt tile, and rubber tile. Tile often appears as 9” x 9” or 12” x 12” floor tile squares. This material may be found in schools, offices and residential applications. Not all resilient floor tile contains asbestos.

I.B.85. Response action means a method, including removal, encapsulation, enclosure, repair, operations and maintenance that protect human health and the environment from friable ACM.

I.B.86. Roadways mean surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways.

I.B.87. Routine maintenance area means an area, such as a boiler room or mechanical room that is not normally frequented by students and in which maintenance employees or contract Workers regularly conduct maintenance activities.

I.B.88. Sampling Area means any area, whether contiguous or not, within a building which contains friable material that is homogeneous.

I.B.89. School means any institution that provides elementary or secondary education.

I.B.90. School building means:

I.B.90.a. Any structure suitable for use as a classroom, including a school facility such as a laboratory, library, school eating facility, or facility used for the preparation of food.

I.B.90.b. Any gymnasium or other facility, which is specially designed for athletic or recreational activities for an academic course in physical education.

I.B.90.c. Any other facility used for the instruction or housing of students or for the administration of educational or research programs.

I.B.90.d. Any maintenance, storage, or utility facility, including any hallway, essential to the operation of any facility described in this definition of "school building" under subparagraphs I.B.87.a, b, or c.

I.B.90.e. Any portico or covered exterior hallway or walkway of any facility described in this definition of "school building" in subparagraphs I.B.87.a, b, c, or d.

I.B.90.f. Any exterior portion of a mechanical system used to condition interior space of any facility described in this definition of "school building" in subparagraphs I.B.87,a, b, c, or d.

I.B.91. Secondary Containment means a system of airtight barriers to isolate the work area to prevent the migration of air from the work area.

I.B.92. Sheet Vinyl Flooring means material that is usually found in 6 ft., 9 ft., and 12 ft., width sheets. It often consists of three or more laminated layers. The upper layers are comprised of a wear layer and design feature. The bottom layer may be an asbestos-containing backing, which may be grayish-white in color. Sheet vinyl flooring may be installed in an adhered or loose-laid manner. Other possible applications for this material include countertops and wall coverings. Not all sheet vinyl flooring has an asbestos-containing backing.

I.B.93. Shower room means a room between the clean room and the equipment room in the Worker decontamination enclosure suitably arranged for complete showering during decontamination.

I.B.94. Significantly damaged friable miscellaneous ACM means damaged friable miscellaneous ACM where the damage is extensive and severe.

I.B.95. Significantly damaged friable surfacing ACM means damaged friable surfacing ACM in a functional space where the damage is extensive and severe.

I.B.96. Single-family residential dwelling or unit means any structure or portion of a structure whose primary use is for housing of one family. Residential portions of multi-unit dwellings such as apartment buildings, condominiums, duplexes and triplexes are also considered to be, for the purposes of this Regulation No. 8, single-family residential dwellings; common areas such as hallways, entryways, and boiler rooms are not single-family residential dwellings.

I.B.97. Staging area means either the holding area or an area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.

I.B.98. State-owned or state-leased buildings means structures occupied by any person which are either owned by the state or utilized by the state through leases of one year's duration or longer.

I.B.99. Strip means to take off RACM from any part of a facility or facility components.

I.B.100. Structural member means any load-supporting member of a facility, such as beams and load supporting walls; or any non load-supporting member, such as ceilings and non load-supporting walls.

I.B.101. Surfacing ACM means surfacing material that is ACM.

I.B.102. Surfacing material means material that is sprayed on, troweled on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

I.B.103. Surfactant means a chemical wetting agent added to water to improve penetration.

I.B.104. Thermal system insulation means material applied to pipes, fittings, boilers, breeching, tanks, ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or for other purposes.

I.B.105. Thermal system insulation ACM means thermal system insulation that is ACM.

I.B.106. Transmission Electron Microscopy is an analytical technique used for the definitive identification of asbestos. This technique can be used for both air and bulks sample analyses.

I.B.107. Trigger levels means amounts of material as follows:

I.B.107.a. With regard to single-family residential dwellings, the trigger levels are 50 linear feet on pipes, 32 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.

I.B.107.b. With regard to all areas other than single-family residential dwellings, the trigger levels are 260 linear feet on pipes, 160 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.

I.B.108. Vibration means the periodic motion of friable ACM, which may result in the release of asbestos fibers.

I.B.109. Visible emission means any emissions, which are visually detectable without the aid of instruments, coming from asbestos containing material or asbestos containing waste material.

I.B.110. Waste load-out area means a specially constructed airlock system utilized as a short-term storage area for bagged or barreled waste and as a port for transferring waste to the transport vehicle. This area is separate from the decontamination unit.

I.B.111. Wet cleaning means eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils, which have been dampened with amended water.

I.B.112. Work area means a room, group of rooms, or contiguous area sealed or contained by polyethylene barriers and/or walls for the purpose of eliminating air exchange between another room, group of rooms, or contiguous areas.

I.B.113. Working day means Monday through Friday and including holidays that falls on any of the days Monday through Friday.

I.C. ACRONYMS

I.C.1.	ABIH	American Board of Industrial Hygiene6015 West St. Joseph, Suite 102, Lansing, MI 48917-3980
I.C.2.	ACBM	asbestos-containing building material
I.C.3.	ACGIH	American Conference of Governmental Industrial Hygienists1300 Kemper Meadow Drive, Cincinnati, OH 45240
I.C.4.	ACM	asbestos-containing material
I.C.5.	ACWM	asbestos-containing waste material
I.C.6.	AHERA	Asbestos Hazard Emergency Response Act
I.C.7.	AIHA	American Industrial Hygiene

		Association2700 Prosperity Avenue, Suite 250, Fairfax, VA 22031
I.C.8.	AMS	Air Monitoring Specialist
I.C.9.	ANSI	American National Standards Institute 1819 L Street, NW, Suite 600, Washington, DC 20036
I.C.10.	APCD	Air Pollution Control Division
I.C.11.	ASHARA	Asbestos School Hazard Abatement Reauthorization Act
I.C.12.	ASTM	American Society for Testing and Materials 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959
I.C.13.	AQCC	Air Quality Control Commission
I.C.14.	CCR	Code of Colorado Regulations
I.C.15.	CDPHE	Colorado Department of Public Health and Environment
I.C.16.	CFM	cubic feet per minute
I.C.17.	CFR	Code of Federal Regulations
I.C.18.	CIH	Certified Industrial Hygienist
I.C.19.	C.R.S.	Colorado Revised Statutes
I.C.20.	EPA	Environmental Protection Agency Ariel Rios Building, 1200 Pennsylvania Avenue, N.W., Washington, DC 20460
I.C.21.	f/cc	fibers per cubic centimeter
I.C.22.	f/cm^3	fibers per cubic centimeter
I.C.23.	f/m^3	fibers per cubic meter

I.C.24.	GAC	General Abatement Contractor
I.C.25.	G.E.D.	General Equivalency Diploma
I.C.26.	HEPA	high efficiency particulate air
I.C.27.	HVAC	heating, ventilation and air conditioning
I.C.28.	LCF	large contiguous facility [complex]
I.C.29.	LEA	local education agency
I.C.30.	LPM	liters per minute
I.C.31.	MAAL	Maximum Allowable Asbestos Level in air
I.C.32.	MAP	Model Accreditation Plan (EPA)
I.C.33.	NAM	negative air machine
I.C.34.	NBS	National Bureau of Standards
I.C.35.	NESHAP	National Emissions Standards for Hazardous Air Pollutants (40 C.F.R. Part 61) (EPA), Subparts A (General Provisions), and M (National Emission Standard for Asbestos)
I.C.36.	NIOSH	National Institute for Occupational Safety and Health Hubert H. Humphrey Bldg., 200 Independence Ave., S W, Room 715H, Washington, DC 20201
I.C.37.	NIST	National Institute of Standards and Technology, 100 Bureau Drive, Stop 3460, Gaithersburg, MD 20899-3460
I.C.38.	NVLAP	National Voluntary Laboratory Accreditation Program National Institute

		of Standards and Technology 100 Bureau Drive, MS 2140 Gaithersburg, Maryland 20899-2140
I.C.39.	O&M	Operations and Maintenance
I.C.40.	OSHA	Occupational Safety and Health Administration 200 Constitution Avenue, Washington, D.C. 20210
I.C.41.	PAT	Proficiency Analytical Testing
I.C.42.	PCM	Phase Contrast Microscopy
I.C.43.	PLM	Polarized Light Microscopy
I.C.44.	PPE	personal protective equipment
I.C.45.	PSI	pounds per square inch
I.C.46.	RACM	regulated asbestos-containing material
I.C.47.	RFCI	Resilient Floor Covering Institute 401 E. Jefferson Street, Suite 102, Rockville, MD. 20850
I.C.48.	s/mm^2	structures per square millimeter
I.C.49.	SFRD	single-family residential dwelling
I.C.50.	TEM	Transmission Electron Microscopy
I.C.51.	TSCA	Toxic Substances Control Act 15 U.S.C. section 2601 et seq. TSCA TITLE II means the 1986 amendments to TSCA found at 15 U.S.C. section 2641 et seq.
I.C.52.	TSI	thermal system insulation
I.C.53.	TWA	time weighted average

I.C.54.	VAT	vinyl asbestos [floor] tile
I.C.55.	VCT	vinyl composition tile

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in section I.

II. CERTIFICATION REQUIREMENTS

II.A. GENERAL REQUIREMENTS

II.A.1. Persons required to be certified as a General Abatement Contractor, Building Inspector, Management Planner, Project Designer, Abatement Worker, Abatement Supervisor or Air Monitoring Specialist shall obtain the appropriate certification from the Division in accordance with this section II.

II.A.2. Photo IDs and Certificates

Each individual certified under this regulation must have their state certification photo identification (ID) card or state certificate available at each work site so that Division representatives may check their credentials.

Each individual trained under this regulation must have copies of their training and refresher certificates available at each work site so that Division representatives may check their credentials.

II.A.3. Non-Public Access Areas

Any person certified under this regulation to work solely on asbestos abatement projects in non-public access areas shall not be required to pay the application fee. Certificates issued under this paragraph are not valid for abatement in areas of public access, and are not transferable.

II.A.4. Ownership of Training Certificates

Training certificates are considered to be the property of the accredited individual. Training providers must give duplicate original training certificates to the accredited individual upon request. Training providers may charge a reasonable fee for replacement of training certificates.

II.A.5. Falsification of Training Certificates

Falsification of training certificates or licenses used to obtain state certification is considered to be a violation of these regulations, and shall be sufficient reason for the denial of an application for certification, and may result in disciplinary action being taken against an applicant submitting such falsified training certificates or licenses.

II.A.6. An individual may hold more than one certification.

II.B. GENERAL ABATEMENT CONTRACTOR CERTIFICATES

II.B.1. Certificate Duration

General Abatement Contractor (GAC) certificates are valid for a period of one, two or three years.

II.B.2. Application Procedures

A person applying for a General Abatement Contractor (GAC) certificate, renewal of existing certification or reinstatement of expired certification shall submit an application on a form specified by the Division and, except as provided in paragraph II.A.3 (Non-Public Access Areas) above, pay the applicable fee as specified in the table below:

Certification	Amount		
	1 year	2 years	3 years
GAC (initial)	$2,000.00	N/A	N/A
GAC (renewal)	$1,000.00	$2,000.00	$3,000.00
Out of State (initial)	$3,000.00	N/A	N/A
Out of State (renewal)	$2,000.00	$4,000.00	$6,000.00

II.B.3. Training Requirements

No training is required for GACs.

II.B.4. GAC Responsibilities

GACs shall ensure that all Workers and Supervisors are appropriately certified in accordance with this section II (Certification Requirements). The GAC must ensure that it employs at least one Colorado state-certified Supervisor who must be on-site at all times when abatement work is proceeding.

II.C. WORKER, SUPERVISOR, BUILDING INSPECTOR, MANAGEMENT PLANNER, PROJECT DESIGNER CERTIFICATES

II.C.1. Certificate Duration

Worker, Supervisor, Building Inspector, Management Planner, and Project Designer certificates will be issued for a period of one, three, or five years and will be valid only while the provisions of sections II.C.3 (Training Requirements), II.C.4 (Examinations) and II.C.5 (Refresher Training Requirements) are met.

II.C.2. Application Procedures

Anyone applying for a Worker, Supervisor, Building Inspector, Management Planner, or Project Designer certificate, renewal of an existing certificate or reinstatement of an expired certificate shall submit an application on a form specified by the Division and, except as provided in paragraph II.A.3 (Non-Public Access Areas) above, pay the applicable fee as specified in the table below:

Certification	Amount		
	1 year	3 years	5 years
Worker	$125.00	$375.00	$625.00
Supervisor	$250.00	$750.00	$1250.00
Building Inspector	$175.00	$525.00	$875.00
Management Planner	$175.00	$525.00	$875.00
Project Designer	$250.00	$750.00	$1250.00

II.C.3. Training Requirements

Each individual seeking certification as a Worker, Supervisor, Building Inspector, Management Planner or Project Designer shall complete Division-approved training.

II.C.4. Examinations

An individual seeking certification, renewal of an existing certificate or reinstatement of an expired certificate in a specific discipline shall pass, on an annual basis, a Division-administered closed book examination for that discipline. Each examination shall cover the topics included in the training course for that discipline. The Division shall determine the testing schedule and procedures.

If an applicant fails to achieve a passing score on a certification exam, he or she may retake the exam after submitting the following items to the Division:

- a new application including payment of a retesting fee of $125.00; and
- proof of attendance at a remedial training course, if required by the Division.

II.C.5. Refresher Training Requirements

II.C.5.a. Workers, Supervisors, Building Inspectors, Management Planners or Project Designers who are certified according to this regulation must take an annual refresher-training course from a Division-approved training provider. Prior to the commencement of refresher training, the course provider is required to verify the authenticity of the initial training course certificate and all refresher-training certificates. Individuals not in possession of a valid training certificate shall not be given refresher training.

Applicants are ineligible for refresher training if their most recent training certificate has lapsed for a year or longer, in which case the applicant must retake the initial training. During the period in which the individual's training certificate has expired, the state certificate is not valid. State certification becomes valid once the required training has been completed and state certification requirements have been met.

II.C.5.b. The length of annual refresher courses shall be as follows:

Certification	Length
Worker	One full day (Eight (8) hours)
Supervisor	One full day (Eight (8) hours)
Project Designer	One full day (Eight (8) hours)
Building Inspector	One half day (Four (4) hours)
Management Planner	One half day Building Inspector and one half day Management Planner

II.C.5.c. All courses, at a minimum, must cover the following topics:

- Changes in Federal and State laws, regulations and requirements;
- Developments and/or changes in state-of-the-art procedures;
- Review of the key aspects of the course; and
- Pertinent developments in the particular discipline or the industry as a whole.

Testing of applicants to determine knowledge gained in the refresher course may be done at the option of the course provider.

II.C.6. Combined Certificates

At the request of the applicant, the Division may issue a combined Supervisor/Project Designer or combined Inspector/Management Planner certificate. The applicant shall submit an application on a form specified by the Division and, except as provided in paragraph II.A.3 (Non-Public Access Areas) above, pay the applicable fee as specified in the table below:

Certification	Amount		
	1 year	3 years	5 years
Supervisor/Project Designer	$275.00	$825.00	$1375.00

Building Inspector/Management Planner	$275.00	$825.00	$1375.00

II.D. AIR MONITORING SPECIALIST CERTIFICATES

Effective March 30, 2004, any Individual who performs a final visual inspection or performs any air monitoring referred to in this regulation must be certified as an Air Monitoring Specialist (AMS).

Until this provision for certification becomes effective, all activities required to be performed by a certified Air Monitoring Specialist as stated in this regulation may only be performed by an individual who qualified as an Air Monitoring Specialist under the previous regulation prior to March 30, 2003.

II.D.1. Certificate Duration

Air Monitoring Specialist (AMS) certificates will be issued for a period of one, three, or five years and will be valid only while the Training (II.D.3.a.i and II.D.3.b.i) and Examination (II.D.3.a.iv. and II.D.3.b.iv) requirements are met.

II.D.2. Application Procedures

Anyone applying for an Air Monitoring Specialist certificate, renewal of existing certification or reinstatement of an expired certificate shall submit an application on a form specified by the Division and, except as specified in paragraph II.A.3 (Non-Public Access Areas) above, pay the applicable fee as specified in the table below:

Certification	Amount		
	1 year	3 years	5 years
Air Monitoring Specialist	$250.00	$750.00	$1250.00

II.D.3. Initial Certification Requirements

II.D.3.a. New AMS Applicants

Each Individual seeking certification as an Air Monitoring Specialist shall satisfy the training, experience and education requirements set forth below, unless granted certification based on prior training, experience and education pursuant to section II.D.3.b.:

II.D.3.a.i. Training

Each individual seeking certification as an Air Monitoring Specialist shall successfully complete a Division-approved Air Monitoring Specialist course. An individual certified by the American Board of Industrial

Hygiene as a Certified Industrial Hygienist (CIH) is not required to attend those portions of the Air Monitoring Specialist course that instruct students exclusively on air-monitoring techniques (e.g., pump calibration, cassette placement, cassette handling, etc.).

II.D.3.a.i(A). All initial courses required under this section II.D.3.a. (New AMS Applicants), shall, at a minimum, cover the following topics:

- Roles and responsibilities of an AMS
- Characteristics of asbestos and asbestos-containing materials
- Federal and state laws, regulations and requirements
- Understanding building construction and building systems
- Asbestos abatement contracts, specification and drawings
- Response Actions and abatement practices
- Asbestos abatement equipment
- Personal protective equipment
- Air monitoring strategies
- Safety and Health issues other than asbestos-containing material
- Conducting visual inspections
- Legal responsibilities and liabilities of an AMS
- Record keeping and report writing
- Hands-on activities

The course provider shall test the applicants to determine knowledge gained in the course.

II.D.3.a.ii. Experience

Each individual seeking certification as an Air Monitoring Specialist shall perform the following on-the-job training activities prior to becoming certified:

II.D.3.a.ii(A). Under the observation of a certified Air Monitoring Specialist, participate in a minimum of 2 final visual inspections and 2 final air clearances.

II.D.3.a.ii(B). Under the supervision of a certified Air Monitoring Specialist, successfully perform a minimum of 80 hours of ambient air monitoring.

II.D.3.a.ii(C). The Air Monitoring Specialist applicant shall provide documentation of this experience on a form specified by the Division. The form shall not be complete until signed by the certified Air Monitoring Specialist(s) who supervised and observed the training. This form shall be submitted to the Division at the time of application for certification.

II.D.3.a.iii. Education

Anyone seeking certification as an Air Monitoring Specialist shall possess a high school diploma or General Equivalency Diploma (G.E.D.).

II.D.3.a.iv. Examination

Each individual seeking certification as an Air Monitoring Specialist shall pass, on an annual basis, a Division-administered closed book, written examination. The examination shall cover the topics included in the training course. The Division shall determine the testing schedule and procedures.

If an applicant fails to achieve a passing score on a certification test, he or she may retake the test after submitting the following items to the Division:

1) a new application including payment of a retesting fee of $125.00; and

2) proof of attendance at a remedial training course, if required by the Division.

The Air Monitoring Specialist applicant must pass the written examination in order to become certified as an AMS.

II.D.3.a.v. Permissible Activities for AMS Applicants

Any individual seeking certification as an Air Monitoring Specialist who does not yet meet all the requirements for certification, may perform the following activities prior to becoming certified:

II.D.3.a.v(A). Air Monitoring

Under the supervision of a <u>certified Air Monitoring Specialist</u>, an individual attempting to obtain the necessary experience to fulfill the Air Monitoring Specialist requirements may collect ambient <u>air monitoring</u> samples on behalf of a certified Air Monitoring Specialist to determine compliance with section III.U.1. (Maximum Allowable Asbestos Level). The certified Air Monitoring Specialist overseeing the sampling is, however,

responsible for compliance with section III.U.1. (Maximum Allowable Asbestos Level).

II.3.a.v(B). Final Visual Inspection and Final Air Clearance

Under the observation of a certified Air Monitoring Specialist, anyone attempting to obtain the necessary experience to fulfill the Air Monitoring Specialist requirements may participate in final visual inspections and Final Clearance Air Monitoring along with the certified Air Monitoring Specialist. The certified Air Monitoring Specialist is still responsible for performing all of the required clearance activities specified in section III.P. (Clearing Abatement Projects).

II.D.3.b. Existing AMS Applicants

Any individual who was qualified as an Air Monitoring Specialist prior to March 30, 2003 shall be deemed to have met the training, experience and education requirements for an Air Monitoring Specialist and shall be eligible for certification as an Air Monitoring Specialist upon completion of the following procedures. Each individual seeking certification as an Air Monitoring Specialist under this paragraph must complete the following items:

II.D.3.b.i. Training

The applicant must complete a Division-approved 4-hour Air Monitoring Specialist refresher course.

II.D.3.b.ii. Experience

No additional experience is required, but the individual must submit an application for certification as provided for in paragraph II.D.2, no later than June 30, 2003.

II.D.3.b.iii. Education

There are no education requirements for individuals qualified prior to March 30, 2003.

II.D.3.b.iv. Examination

Each individual seeking certification as an Air Monitoring Specialist shall pass, on an annual basis, a Division-administered closed book, written examination. The examination shall cover the topics included in the training course. The Division shall determine the testing schedule and procedures.

If an applicant fails to achieve a passing score on a certification exam, he or she may retake the exam after submitting the following items to the Division:

1) a new application including payment of a retesting fee of $25.00; and

2) proof of attendance at a remedial training course, if required by the Division.

II.D.4. Recertification Requirements

II.D.4.a. Air Monitoring Specialists who are certified according to this regulation must take an annual refresher-training course from a Division-approved training provider. Prior to the commencement of refresher training, the course provider is required to verify the authenticity of the initial training course certificate and all refresher-training certificates. Individuals not in possession of a valid training certificate shall not be given refresher training. The length of the Air Monitoring Specialist refresher course shall be one-half day (four (4) hours).

Applicants are ineligible for refresher training if their most recent training certificate has lapsed for a year or longer, in which case the applicant must retake the initial training. During the period in which the individual's training certificate has expired, the state certificate is not valid. State certification becomes valid once the required training has been completed and state certification requirements have been met.

II.D.4.b. All refresher courses required under this section II.D.4. (Recertification Requirements), at a minimum, must cover the following topics:

- Changes in Federal and State laws, regulations and requirements;
- Developments and/or changes in state-of-the-art procedures;
- Review of the key aspects of the course; and
- Pertinent developments in the particular discipline or the industry as a whole.

Testing of applicants to determine knowledge gained in the refresher course may be done at the option of the course provider.

II.E. TRAINING PROVIDER APPLICATION PROCEDURES

II.E.1. Any person wishing to offer courses in disciplines for which training or certification is required must be registered as an Asbestos Training Provider. Applicants shall apply to the Division for approval, except for the training referenced in Appendix C. Applicants seeking approval for initial training or refresher training courses shall submit their request to the Division on a form supplied by the Division along with the written course materials and a fee of $250.00 per discipline in which they wish to offer courses.

II.E.1.a. After the initial course approval, Applicants shall submit their renewal request to the Division on a form supplied by the Division along with a fee of $100.00 per discipline in which they wish to offer courses.

II.E.2. In order for a course to be approved it must adequately address the topics and format contained in the United States Environmental Protection Agency's Asbestos Model Accreditation Plan (MAP), 40 C.F.R. Part 763 (1994), Subpart E,

Appendix C. The Commission recommends the use of audiovisual materials to complement lectures in these courses, where appropriate.

II.E.3. After reviewing the application for course approval, the Division shall inform the applicant in writing whether the course is approved for use in Colorado or if changes must be made in the application before approval may be granted.

II.E.4. Once the applicant has been informed that the course is approved, the course is considered to have contingent approval, and the applicant may begin offering courses in the State. Final approval of the course will not be granted until the Division has audited the course and determined that the course meets the requirements of this regulation.

II.E.5. After contingent approval has been granted by the Division, the applicant must make application, if necessary, with the Department of Higher Education, Division of Private Occupation Schools (DHE/DPOS), for approval as an occupational education course. Failure to follow the DHE/DPOS regulations or failure to obtain or retain DHE/DPOS approval may result in the de-certification of the course by the Air Pollution Control Division (APCD).

II.E.6. Applicants who wish to offer courses already approved by the Environmental Protection Agency or by a state whose training requirements are at least as stringent as the Commission's and whose asbestos certification program has been approved by EPA shall be granted reciprocity to teach classes in Colorado. The approval granted to such course provider shall be at the same level as that already approved by EPA or another state. The applicant shall be subject to all requirements outlined in this regulation.

II.E.7. In the curriculum and course agenda, the applicant must show what portions of the course will be taught by each instructor.

II.F. INSTRUCTOR QUALIFICATIONS

Qualified instructors must teach all courses. The minimum qualifications for instructors shall be:

II.F.1. A high school diploma or GED;

II.F.2. Current AHERA training credentials and current Colorado certification for the discipline being taught by the instructor (variances for out-of-state instructors will be considered on a case-by-case basis);

II.F.3. Three (3) years of field experience in the discipline being taught. This may be obtained by a combination of any of the following items:

II.F.3.a. Actual field experience in the field being taught, such as; performing abatement activities as a Worker or Supervisor; or performing inspection and/or management planning activities; or performing project design activities; or performing Air Monitoring Specialist activities.

II.F.3.b. Teaching in the discipline, under the supervision of a qualified instructor, with one (1) month of teaching equal to one (1) month of experience.

II.F.3.c. Collegiate or seminar-type classes (e.g., NIOSH 582,7400 courses, etc.) with one (1) week of training equal to one (1) month of experience.

II.F.4. Documentation of experience claimed or instruction received must be provided by the applicant. This must include submission of a resume with telephone numbers, and references, that are provided to allow for verification by the Division.

II.F.5. All instructors must meet the above requirements both at the time of course submission for approval and at the time the course is being taught. The Division may grant assistant instructor status to those individuals who do not currently meet all requirements at the time of the course submittal. The individuals may re-apply for approval as full instructors once they have met the requirements.

II.G. TRAINING COURSE NOTIFICATIONS

II.G.1. Training course providers must notify the Division in writing of scheduled courses at least two weeks (10 working days) prior to the offering of the course. Notification of course cancellations must be provided to the Division by 5:00 p.m. the day prior to the course offering.

II.G.2. For any course in which trainging or certification is required, the Training Provider must submit a list of students who took the course and a fee of $10.00 per student to the Division no later than 30 calendar days after the conclusion of the course.

II.H. TRAINING COURSE AUDITS

The Division may audit any training course given for the purpose of preparing individuals for State certification. Any significant omissions or deficiencies may result in de-certification of the course. There will be no charge to the Division for auditing a training course.

II.I. RECIPROCITY

II.I.1. An individual who has a valid certificate, license or other registration from another state, District of Columbia or other territory of the United States, or other Division-approved national entity (specifically, the National Asbestos Examinations and Registration System) which has a certification and testing program that has been approved by the EPA and which is at least as stringent as the Commission's, may apply for certification by submitting an application on the form specified by the Division, along with the applicable fee.

II.I.2. Those individuals applying under this subsection II.I. (Reciprocity) for Colorado certification as a Supervisor or project designer must also successfully complete a Division-administered examination on state laws and regulations related to asbestos abatement before Colorado certification will be issued.

II.I.3. Those individuals applying under this subsection II.I.. (Reciprocity) for Colorado certification as an Air Monitoring Specialist must also:

II.I.3.a. provide documentation to the Division showing that they have been certified to conduct Air Monitoring Specialist activities for at least 1 year; and

II.I.3.b. pass the written examination as described in subparagraph II.D.3.a.iv. (examinations).

II.I.4. After receiving Colorado certification, the applicant shall be subject to all requirements outlined in this regulation regarding training and application for renewal of Colorado certification, including testing requirements.

II.I.5. The applicant shall provide documentation to the Division as may be necessary to allow the Division to determine if a reciprocal certificate should be issued.

II.J. PROJECT MANAGER QUALIFICATIONS

II.J.1. There is no Project Manager certification requirement. Where a Project Manager is required pursuant to the Regulation No. 8, Part B, the Project Manager shall satisfy the certification, academic training, experience, and educational requirements as set forth below:

II.J.1.a. Certification as a Project Designer in accordance with this section II. Project Managers must have proof of this certification with them on the project site.

II.J.1.b. Successful completion of a Division-approved Air Monitoring Specialist course. A 4-year college degree in industrial hygiene, a degree in environmental health with a major concentration in industrial hygiene, or the possession of a certified industrial hygienist (CIH) certificate given by the American Board of Industrial Hygiene (ABIH), may be substituted for the above Air Monitoring Specialist course. Project Managers must have proof of the required training with them on the project site.

II.J.1.c. A minimum of one (1) year of experience supervising, overseeing or monitoring asbestos abatement projects.

II.J.1.d. Possession of a high school diploma or G.E.D.

II.K. DENIAL, SUSPENSION, REVOCATION, OR REFUSAL TO RENEW CERTIFICATION

The Division may deny, suspend, revoke, or refuse to renew certifications in accordance with the provisions of § 25-7-508, C.R.S.

II.L. Any person performing asbestos consulting firm activities as defined in this regulation must be registered as an Asbestos Consulting Firm. Applicants seeking to be registered shall submit their request to the Division on a form supplied by the Division along with an annual fee of $500.00.

II.M. Any person performing asbestos Laboratory activities as defined in this regulation must be registered as an Asbestos Laboratory. Applicants seeking to be registered shall submit their request to the Division on a form supplied by the Division along with an annual fee of $250.00.

II.N. EXEMPTIONS

The following sections of the regulation contain exemptions from certain requirements. Please refer to the indicated section for the specific details of the exemption.

- Anyone working in Non-Public Access Areas is exempted from certain requirements. See paragraph II.A.3.

- Certified Industrial Hygienists are exempted from certain training requirements. See subparagraphs II.D.3.a., II.D.3.b., and subsection II.J.

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in section I.

III. ABATEMENT, RENOVATION AND DEMOLITION PROJECTS

III.A. INSPECTION

III.A.1. Prior to any renovation or demolition which may disturb greater than the trigger levels of material identified as a suspect asbestos-containing material pursuant to the EPA "Green Book", Managing Asbestos in Place, Appendix G (1990), the facility component(s) to be affected by the renovation or demolition shall be inspected to determine if abatement is required.

III.A.1.a. Individuals performing these inspections shall be Building Inspectors certified in accordance with this regulation.

III.A.1.b. The inspection, sampling and assessments of the suspect materials must be performed as required in paragraph IV.C.1. (Inspection), subsections IV.D. (Sampling) and IV.F. (Assessment) of this regulation.

III.A.1.c. The analysis of samples collected during these inspections must be performed as required in subsection IV.E. (Analysis) of this regulation with one exception: if the asbestos content of a sample of friable asbestos is estimated to be 1% asbestos or less, but greater than 0%, by a method other than point counting (such as visual estimation), the determination shall be repeated using the point counting technique with polarized light microscopy. If a result obtained by point count is different from a result obtained by visual estimation, the point count result must be used. Tar impregnated samples do not have to be point counted.

III.A.1.d. Buildings, or those portions thereof, that were constructed after October 12, 1988 shall be exempt from this inspection requirement if an architect or project engineer responsible for the construction of the building, or a state certified Inspector, signs a statement that no ACM was specified as a building material in any construction document for the building or no ACM was used as a building material in the building. NOTE: The Division recommends that all buildings be inspected prior to any renovation or demolition activities, regardless of the date of construction.

III.A.1.e. To prevent any real or potential conflicts of interest, Building Inspectors identifying ACM must be independent of the GAC that will subsequently abate the ACM identified. Inspectors need not be independent of the GAC if both the Inspector and the licensed GAC are employees of the building owner.

III.A.2. Abatement, in accordance with Regulation No. 8, is required if the amount of ACM that will be disturbed in connection with the renovation exceeds the trigger levels.

III.A.3. Any asbestos-containing material that is friable or will be made friable during demolition activities in any area of public access or non-public access area must be removed prior to demolition. Removal, in accordance with Regulation No. 8, is

required if the amount of asbestos-containing material that is friable or will become friable during demolition exceeds the trigger levels.

III.B. USE OF CERTIFIED AND REQUIRED PERSONNEL

III.B.1. Any person who conducts asbestos abatement other than abatement performed in a school building shall obtain a GAC if the amount of asbestos to be abated exceeds the trigger levels on any occasion.

III.B.1.a. A person required to be certified in accordance with paragraph III.B.1 above, shall employ at least one state-certified Supervisor who shall be on-site at all times when asbestos abatement work is proceeding. Asbestos Workers must have access to a certified Supervisor throughout the duration of the abatement project.

III.B.1.b. For abatement projects where a GAC is required, all abatement Workers and Supervisors shall be certified in accordance with the provisions of Section II (Certification Requirements). GACs shall ensure that all asbestos abatement Workers and Supervisors are properly certified.

III.B.1.c. The requirements of this Paragraph III.B.1 shall not apply to any individual who performs asbestos abatement on a single-family residential dwelling that is the individual's primary residence.

III.B.2. With respect to school buildings, public or commercial buildings and single-family residential dwellings, any individual who inspects any building for the presence of asbestos shall be certified as a Building Inspector in accordance with this regulation.

III.B.3. With respect to school buildings, any individual who develops an asbestos management plan, supervises asbestos abatement activities, performs asbestos abatement, or designs asbestos abatement projects shall be certified for the specific activity he is engaged in if the amount of asbestos-containing material exceeds, on any occasion, 3 linear feet on pipes, or 3 square feet on other surfaces.

III.B.3.a. The LEA or its contractor shall ensure that at least one state-certified Supervisor is on-site at all times when asbestos abatement work is proceeding. Asbestos Workers must have access to certified Supervisors throughout the duration of the abatement project.

III.B.4. With respect to public and commercial buildings and single-family residential dwellings, any individual who develops an asbestos management plan, supervises asbestos abatement activities, performs asbestos abatement, or designs asbestos abatement projects shall be certified for the specific activity in which he is engaged if the amount of asbestos-containing material exceeds, on any occasion, the trigger levels.

III.B.5. Effective March 30, 2004, any individual who performs a final visual inspection or performs any air monitoring referred to in this regulation must be certified as an Air Monitoring Specialist.

III.B.6.Project Manager

A project manager shall be used on all asbestos abatement projects in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces.

III.B.6.a. Waiver of the Project Management Requirements

Building owners who seek to have the project manager requirement waived must submit the request, on a form supplied by the Division as part of the notification required in III.E.1 (Notices).

III.B.6.a.(i). Waiver requests shall be approved by the Division if the project is performed by a GAC with a non-compliance history of fewer than two (2) Division-issued compliance determinations with a finding of guilty during the past two (2) years prior to the start of the project.

III.B.6.a.(ii). If the project is conducted by a GAC with a non-compliance history of two (2) or more Division-issued compliance determinations with a finding of guilty during the past two (2) years, the building owner must, on a form supplied by the Division, demonstrate to the satisfaction of the Division that compliance with the project manager requirements is overly burdensome or not feasible.

III.B.6.b. The GAC shall notify the building owner during bid proposals as to whether or not a project manager would be required.

III.C. PROJECT DESIGN

III.C.1. Prior to the start of any asbestos abatement in an area of public access of a non-school building, in which the amount of asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces, a written project design shall be developed by a Project Designer certified under these regulations.

III.C.2. Prior to the start of any asbestos abatement in a school building in which the amount of friable asbestos-containing material to be abated exceeds 3 linear feet on pipes, or 3 square feet on other surfaces, a written project design shall be developed by a Project Designer certified under these regulations, in accordance with paragraph IV.G.7 of this regulation.

III.C.3. A project design shall include:

- an accurate and detailed scope of work
- quantities of material to be removed
- a discussion, of the removal methods
- air exchange calculations
- signature of the project designer
- project design completion date and dates of any amendments

- drawings that include:
    - locations of ACM to be abated
    - the decontamination unit
    - the waste load-out
    - negative air machines
    - air intake and exhaust
    - emergency exits, when applicable

III.C.4. A signed copy of the project design shall be available on-site at all times during the abatement activities for review by. Inspectors, the Project Manager and the certified Air Monitoring Specialist.

III.D. PROJECT MANAGEMENT

III.D.1. The project manager shall be responsible for:

- assessing that the project is conducted in accordance with this regulation.
- assessing that the project design is followed.
- assessing that the abatement project is cleared in accordance with this regulation.
- assessing that the asbestos waste generated by the project is properly manifested and disposed of in accordance with this regulation.
- communicating these assessments to the building owner or GAC.

III.D.2. Project managers shall be independent of the asbestos abatement contractor and work strictly on behalf of the building owner to the extent feasible, unless the abatement is being performed in-house.

III.D.3. Project managers must sign the original copy of the permit for the permit to be valid.

III.E. NOTIFICATIONS

III.E.1. Notices

Any person intending to either abate asbestos-containing materials in any amount greater than the trigger levels, or demolish a facility shall, on a form supplied by the Division, provide a written notice of the intent to conduct asbestos abatement or demolition. When a permit is required under paragraph III.G.1 (Permits), this notice shall serve as the permit application referred to in paragraph III.G.1 False, inaccurate or misleading information contained in the notice is cause for the Division to revoke a permit issued pursuant to paragraph III.G.1 (Permits) and/or to initiate an enforcement action pursuant to §25-7-508, C.R.S. Any modification of information contained in the notification must be

made in writing to the Division on the first regular business day preceding the change. Notices required under this paragraph are subject to the following conditions:

III.E.1.a. The notice shall be postmarked or delivered to the Division at least 10 working days before commencing an abatement project or demolition project, except as provided in subparagraphs b., c., and d. of this section. Any fees required under this paragraph III.E.1 (Notices) or III.G.1 (Permits) must accompany the notice for the notice to be accepted by the Division.

III.E.1.b. If the project is not one for which a permit is required pursuant to paragraph III.G.1. (Permits), a processing fee of $80.00 shall be submitted to the Division for each notice. For abatement projects that occur in non-public access areas, the Division may charge the person submitting this notice a fee for site inspections and any necessary monitoring for compliance with applicable sections of this regulation. The fee shall be assessed at a rate of $80.00 per hour.

III.E.1.c. For large contiguous facility complexes, if the project is not one for which a permit is required pursuant to III.G.1. (Permits), an annual fee in the amount of $80.00 per abatement project that will be undertaken that year shall be submitted to the Division. If over the course of the year should more than the anticipated number of projects occur, an additional $80.00 per notice shall be submitted to the Division. At the end of one year the Division will refund fees for projects that have not been performed, less a $80.00 processing fee.

III.E.1.d. For demolition projects, a base fee of $50.00 is required plus an additional $5.00 per one thousand square feet, or any portion thereof, of structure footprint.

III.E.1.e. Waiver of the 10-Working Day Notification Period.

There are two situations where the Division will consider a waiver of the 10-working day notifications. They are:

III.E.1.e.(i). Emergencies

In the event of an emergency in which asbestos abatement work must commence at once, the Division and the appropriate county health department shall be notified immediately by fax or telephone. The GAC or building owner must submit a written notification on a form supplied by the Division at the start of the next regular State business day after commencing the emergency abatement. The application shall be accompanied by a written explanation of the events surrounding the emergency and signed by both the building owner and the GAC. If the emergency occurs during non-business hours, the Division and the appropriate county health department shall be notified by telephone on the morning of the next regular State business day.

III.E.1.e.(ii). Unexpected Discovery

In the event of an unexpected discovery of asbestos-containing materials behind a wall, above a ceiling, beneath a floor or otherwise hidden in such a way as to preclude access to it without damaging part of the

structure, should the building owner wish to seek a waiver of the normal 10-working day notification, the GAC or building owner shall notify the Division by the end of the next regular State business day following the unexpected discovery.

III.E.1.f. For structures that are declared structurally unsound and in danger of imminent collapse by an authorized State or local governmental representative, as described in paragraph III.W. (Structurally Unsound Buildings), the GAC, demolition contractor, or building owner shall notify the Division as early as possible before demolition begins if the operation is as described in subsection III.W. (Structurally Unsound Buildings). The notification shall contain the name, title, and authority of the State or local governmental representative who has ordered the demolition.

III.E.2. Single-Family Residential Dwelling Opt-Out Notice

An owner of a single-family residential dwelling may opt-out of the area of public access requirements of this regulation for the abatement of asbestos-containing material in excess of the trigger levels in that owner's primary residence by completing the opt-out form. If the homeowner chooses to opt-out, the GAC contracting with the homeowner shall provide the completed, signed “Single-Family Residential Dwelling Area of Public Access Opt-Out Form” to the Division. For a project in which the homeowner has chosen to opt-out, then the single-family residential dwelling will revert to being subject to the area of public access requirements: 1) at the end of the project; 2) when the homeowner no longer owns the single-family residential dwelling; or, 3) if the dwelling ceases being the homeowner's primary residence, whichever is first.

III.F. ALTERNATIVE PROCEDURES AND VARIANCES

The Division may, at its discretion, grant a variance from this Regulation allowing use of an alternative procedure for the clearance of abatement projects or the control of emissions from an asbestos abatement project provided that the person conducting the asbestos abatement submits the alternative procedure in writing to the Division along with a $50.00 review fee, and demonstrates to the satisfaction of the Division that compliance with the regulation is neither practical nor feasible, or that the proposed alternative procedures provide equivalent control of asbestos.

Within sixty (60) days of the receipt of the request the Division shall notify the applicant in writing of its decision to either grant or deny the variance, except that if the request is to utilize an alternative procedure previously evaluated by the Division the variance shall be granted or denied within (10) ten days. No person shall begin abatement using such a procedure until a variance has been requested, and approved in writing. Any violation of the conditions of the variance will be considered a violation of this Regulation.

III.G. PERMITS

III.G.1. Permit Applications

III.G.1.a. No person shall commence an abatement project in which the amount of friable asbestos-containing material exceeds the trigger levels in an area of public access without first obtaining a permit from the Division. Only the GAC in whose name the permit is issued may conduct the abatement project.

III.G.1.b. Permit fees for large contiguous facility complexes shall be paid annually to the Division in the amount of $1,200.00 plus $80.00 for each anticipated project. This fee must accompany the permit application for the application to be accepted. At the end of the permit year, the Division will refund fees for projects that have not been conducted, less a $80.00 processing fee.

III.G.1.c. For any project other than those on large contiguous facility complexes, the permittee shall be assessed a fee for the permit. The fee must accompany each permit application. The fee schedule is as follows:

	Permit Fee for Projects	
	Applies to ALL facilities including single-family residential dwellings	Applies ONLY to single-family residential dwellings
Project Length	Greater than 260 linear feet/160 square feet/55 gallon drum	Greater than 50 linear 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	$400.00	$180.00
31-90 days	$800.00	$300.00
91-365 days	$1,200.00	$420.00

Any inspections in excess of one for a 30-day permit, two for a 90-day permit, or three for a one-year permit will be assessed at a rate of $80.00 per hour.

Permits are valid for a maximum of one year. A new permit must be obtained for projects lasting longer than one year.

III.G.2. Permit/Project Modification

Whenever there is a modification in the project, the permittee must notify the Division and the local county health department (as designated by the Division) in writing. A project modification occurs when there is a change in the scope of work, the scheduled work dates or times, or the project manager. The permitee shall notify the Division by the end of the next regular State business day following the modification.

III.G.3. Multiple-Phase Projects

Buildings owned by the same person, which are at different locations, must be permitted separately. Buildings owned by the same person, which are at the same location, can be covered by one multiple-phase permit. When applying for a permit for abatement to be performed in more than one building or in more than one area within a single building, the applicant shall provide, on a form supplied by the Division, additional information regarding the multiple-phase project. Whenever there is a change in any of the information provided on the form, a new form shall be submitted to the Division that:

III.G.3.a. Indicates clearly which phases of the project have changed,;

III.G.3.b. Is postmarked or delivered to the Division at least 10 working days before the start of any phase having a change in its starting date;

III.G.3.c. Indicates additional phases that are to be added after the start of a multi-phase project by the submission of a new application covering the additional phase or phases 10 working days prior to the start of the first additional phase. There is a $80.00 fee for each additional phase after the initial permit approval.

III.G.4. The original of the Division-issued permit shall be posted in a visible location at the work site at all times.

III.G.5. Asbestos abatement permits are required for asbestos abatement projects in single- family residential dwellings for which the amount of asbestos-containing materials to be abated exceeds the trigger levels, unless either of the following conditions applies:

III.G.5.a. The homeowner has requested that the single-family residential dwelling not be considered an area of public access pursuant to section III.E.2; or

III.G.5.b. The individual is performing the abatement project himself/herself in a single- family residential dwelling that is the individual's primary residence.

III.G.6. Transferring a Permit

Should a GAC wish to transfer a permit to another GAC, the GAC who will perform the abatement project must submit a new permit application and pay the Division a $55.00 processing fee.

III.G.7. No permit to conduct asbestos abatement shall be issued to a person who has failed to pay a Division-assessed penalty for violating any provision of this Regulation No. 8 or to any person who has otherwise failed to comply with any order of the Division, unless the penalty or order is under appeal before the Air Quality Control Commission.

III.G.8. Permits issued on projects requiring project managers shall not be valid until the project manager signs the original copy of the permit.

III.H. ABATEMENT SEQUENCE

This subsection III.H. applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

III.H.1. Pre-Abatement

Pre-abatement is the time period covering the commencement of construction of the containment and all other preparations (including any necessary pre-cleaning) taking place prior to the actual abatement of ACM. This abatement phase does not include the transport of materials and equipment to the job site. The transport of materials and equipment to the job site is the only activity that is allowed prior to the permit start date.

Below are the steps for the pre-abatement phase of the project. Please note that steps 1 though 6, where applicable, are mandatory, and the exact sequence shown below is mandatory.

1) Install critical barriers(pursuant to subsection III.I, Critical Barrier Installation)

2) Establish negative pressure(pursuant to subsection III.J, Air Cleaning and Negative Pressure Requirements)

3) Construct the decontamination area(pursuant to subsection III.K, Decontamination Area)

4) Pre-clean surfaces(pursuant to subsection III.L, Pre-cleaning of Surfaces)

5) Cover fixed objects(pursuant to subsection III.M, Covering Fixed Objects)

6) Construct the containment(pursuant to subsection III.N, Containment Components)

III.H.2. Active Abatement

Active abatement means the time period beginning with the completion of the pre-abatement phase and ending when the area has passed final clearance air monitoring and the critical barriers have been completely removed.

The active abatement phase includes the actual “gross” removal of ACM and all aspects of “final cleaning” that are conducted prior to the areas being pronounced ready for a final visual inspection: The final visual inspection, final clearance air monitoring, and the removal of critical barriers are the last activities included in the active abatement phase.

Below are the steps for the active abatement phase of the project. Please note that steps 7, 8, 9, and 10, are mandatory, and the exact sequence shown below is mandatory.

7) Conduct abatement (pursuant to subsection III.O, Abatement Methods)

8) Conduct final visual inspection (pursuant to paragraph III.P.1., Final Visual Inspection)

9) Conduct final clearance air monitoring (pursuant to paragraph III.P.3., Final Clearance Air Monitoring)

10) Conduct the tear-down (pursuant to subsection III.Q, Tear-down)

III.H.3. Post-Abatement

Post abatement means any point in time following the termination of the active abatement phase. Below is the step for the post-abatement phase of the project. Please note that step 11 is mandatory.

11) Handle waste. Handling of waste is permissible during the active abatement phase.(pursuant to subsection III.R, Waste Handling).

III.I. CRITICAL BARRIER INSTALLATION

This subsection III.I applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

All openings between the work area and clean areas including, but not limited to, windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers and skylights shall be sealed with a minimum of one layer of 6-mil polyethylene sheeting.

III.J. AIR CLEANING AND NEGATIVE PRESSURE REQUIREMENTS

This subsection III.J applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

III.J.1. Negative Air Machines and HEP A Filters

III.J.1.a. Negative pressure air filtration units shall be operated continuously from the time of barrier construction through the time that acceptable final clearance air monitoring results are obtained in accordance with subsection III.P (Clearing Abatement Projects).

III.J.1.b. The GAC who is required to use air cleaning shall properly install, use, operate, and maintain all air-cleaning equipment authorized by this subparagraph III.J (Air Cleaning and Negative Pressure Requirements).

III.J.1.c. The GAC who is required to use air cleaning shall use a HEPA filter to clean the air, except as noted below:

III.J.1.c.(i). Bypass devices may be used only during upset or emergency conditions and then only for so long as it takes to shut down the operation generating the particulate asbestos material.

III.J.1.c.(ii). If the use of a filter creates a fire or explosion hazard, the Division may authorize as a substitute the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals (40 inches of water gauge pressure).

III.J.1.c.(iii). The Division may authorize the use of filtering equipment other than HEPA filters if EPA has previously approved it and if it can be demonstrated to the Division's satisfaction that it is equivalent to the described equipment in filtering particulate asbestos material.

III.J.1.d. These units shall exhaust filtered air to the outside of the building when the length of exhaust duct required to do so does not overburden the negative air units. If air must be exhausted to the interior of the building, it must be done in accordance with subparagraph III.U.1.b. (During Abatement).

III.J.2. Air Exchange Rates

The GAC who is required to use air cleaning shall maintain sufficient air cleaning equipment in operation at all times to ensure that the air within the work area is exchanged a minimum of four (4) times per hour.

III.J.3. Pressure Differential

At all times the differential of the work area to the clean area shall be, at a minimum, -0.02 inches of water. A manometer or pressure gauge shall be set up on the outside of the containment area so that the pressure differential between the work area and the clean area may be determined. At all times the differential of the work area to the clean area shall be recorded using a strip chart recorder or its equivalent.

III.J.4. Air Flow Direction

At all times airflow direction shall be from the exterior of the containment barriers into the interior of the containment barriers. In addition, smoke tubes shall be readily available on the outside of the containment barriers at all times so that airflow direction may be determined.

III.K. DECONTAMINATION UNIT

This subsection III.K applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

III.K.1. Construction

A decontamination unit shall be constructed to provide employees with a facility to be used to decontaminate asbestos-exposed Workers and equipment before such Workers and equipment leave the work area. The decontamination unit shall consist of the following three stages, which shall be separated by staggered flaps or an equivalent system of barriers that will self-close should negative air pressure fail:

III.K.1.a. Clean Room

The clean room shall be sized to accommodate the clothes and equipment of the work crew. Clean work clothes, clean disposable clothing, replacement filters for respirators, towels and other necessary items shall be provided in the clean room. No asbestos-contaminated items may enter this room. Workers shall use this area to suit up, store street clothes, and don respiratory protection on their way to the work area, and to dress in clean clothes after showering.

III.K.1.b. Shower

Except for small-scale abatement projects where glovebag methods or mini-enclosure methods are used, a portable shower shall be used to permit the employees to clean themselves after exposure to asbestos. Each showerhead shall be supplied with hot and cold water adjustable at the tap, and a drain equipped with a filtration system to filter asbestos from the shower wastewater to a fiber size of five (5) microns prior to discharging the wastewater into a sanitary sewer. The shower room shall contain one or more showers to accommodate Workers. The shower enclosure shall be constructed to ensure against leakage of any kind and shall be kept clean of all debris and ACWM at all times.

III.K.1.c. Equipment (Dirty) Room

The equipment room shall be used for storage of equipment and tools at the end of a shift after decontamination using a HEPA filtered vacuum or wet cleaning techniques. A labeled six-(6) mil polyethylene bag for collection of disposable

clothing shall be located in this room. Contaminated footwear shall be stored in this area for reuse.

III.K.2. Entry and Exit

The following procedures shall be used for work area entry and exit unless there is an emergency situation immediately dangerous to life or health:

III.K.2.a. All personnel and authorized visitors shall enter and exit the work area through the Worker decontamination unit and not the waste load-out.

III.K.2.b. All personnel shall don disposable coveralls, head covering and foot covering prior to entering the work area. To prevent contamination from leaving the work area, all personnel entering the work area shall wear disposable coveralls in sizes adequate to accommodate movement without tearing. The coveralls (Tyvek® or other material equally effective in preventing gross ACM from contacting the individual's body) shall include head and foot covers (unless head and foot covers are provided separately).

III.K.2.C. Before leaving the work area, all personnel shall remove gross contamination from the outside of respirators and dispose of protective clothing in containers labeled for disposal in accordance with subparagraph III.R.2.b. (Labeling). Personnel shall proceed to the shower area and then shower and shampoo to remove residual asbestos contamination. After showering, personnel shall proceed to the clean room.

III.L. PRE-CLEANING OF SURFACES

This subsection III.L applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

Pre-cleaning of surfaces contaminated with visible dust or debris shall be conducted prior to the commencement of any abatement project. The following procedures shall be conducted in the order in which they appear:

III.L.1. HEPA vacuum or wet wipe all surfaces contaminated with visible dust or debris. All movable objects shall be cleaned of dust and debris by HEPA vacuum or wet wiped before removal from the work area;

III.L.2. Dispose of all dust and debris, filters, mop heads and other contaminated waste as ACWM pursuant to subsection III.R (Waste Handling);

III.L.3. Pre-cleaning of dirt floors shall be conducted in accordance with paragraph III.S.5 (Asbestos-Contaminated Soil).

III.M. COVERING FIXED OBJECTS

This subsection III.M applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

At a minimum, all fixed objects in the work area shall be covered with one (1) layer of six-(6) mil polyethylene sheeting, secured in place.

III.N. CONTAINMENT COMPONENTS

This subsection III.N applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

Construction of the containment components may commence only after adequate negative pressure is established.

Polyethylene sheeting shall be used in the construction of containment barriers in order to isolate the work area during abatement projects. Spray poly may be substituted for polyethylene sheeting.

III.N.1. Wall, Floor and Ceiling Polyethylene

Polyethylene sheeting shall be used in thicknesses and number of layers as specified in subparagraphs III.N.1.a., b., c., and d. below, and shall be used to seal all windows, doors, ventilation systems, and wall penetrations, and to cover ceilings, walls, and floors in the work area. Duct tape or spray adhesive shall be used to seal the edges of the plastic and to seal any holes in the containment. Polyethylene sheeting shall be attached using any combination of duct tape or other waterproof tape, furring strips, spray glue, staples, nails, screws or other effective materials capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions.

III.N.1.a. Laying Polyethylene on Floors

At a minimum, floors shall be covered with sheeting consisting of two (2) layers of six-(6) mil polyethylene sheeting, unless spray poly is used. Floor sheeting shall extend up sidewalls at least twelve (12) inches and be sized to minimize seams. No seams shall be located along wall/floor joints.

III.N.1.b. Hanging Polyethylene on Walls

At a minimum, walls shall be covered with sheeting that shall consist of two (2) layers of four (4) mil or thicker polyethylene, unless spray poly is used. It shall be installed to minimize seams and shall extend beyond wall/floor joints at least twelve (12) inches. No seams shall be located along wall/wall joints.

III.N.1.c. Hanging Polyethylene Sheeting on Ceilings

If a work area has a ceiling that will not be abated as part of the abatement work, at a minimum, the ceiling shall be covered with sheeting that shall consist of one (1) layer of four (4) mil or thicker polyethylene, unless spray poly is used. It shall be installed to minimize seams and shall extend beyond wall/ceiling joints at least twelve (12) inches. No seams shall be located along wall/ceiling joints.

III.N.2. View Port

A clear view port with a minimum size of 12” × 12” shall be installed to allow a view of the interior of the work area. If a view port cannot be installed, an explanation shall be made on the notification form stating that it will not be installed and the reason why.

III.N.3. Waste Load-out Area

All containments shall be constructed to include a waste load-out area. This area shall be separate from the decontamination unit and shall be used as a temporary storage area for bagged waste and as a port for transferring waste to the transport vehicle. All waste load-out areas must have a minimum of two separate chambers separated by air locks.

III.N.4. Secondary Containment

III.N.4.a. For glovebag removals (see III.V.1) the GAC in lieu of full containment shall erect secondary containment barriers where the amount of ACM to be removed in a functional space exceeds three (3) linear or three (3) square feet.

III.N.4.b. For facility component removals (see III.V.2) in lieu of full containment the use of a secondary containment to facilitate the required air clearance monitoring is recommended, but not required.

III.O. ABATEMENT METHODS

This subsection III.O applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

The three methods of asbestos abatement are listed below. Any additional requirements using these methods, other than those already specified in this regulation, are detailed in paragraphs II.O.1., 2., and 3., below.

III.O.1. Removal

III.O.1.a. Controlling Airborne Fiber Release/Emissions

III.O.l.a.(i). Wetting

III.O.1.a.(i)(A). Amended Water

Amended water shall be used to adequately wet asbestos-containing materials before removal is attempted. All waste shall be kept adequately wet with amended water until bagged for disposal. Surfactants must be a commercially available product specifically designed to be mixed with water for use in wetting of asbestos-containing materials.

III.O.1.a.(i)(B). Airless Sprayers

Airless sprayers shall be used when applying amended water or encapsulant to asbestos-containing materials.

III.O.1.a.(i)(C). Cold Temperature Wetting

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

III.O.1.a.i(C)(1) The GAC shall apply for a variance from the Division in accordance with the requirements of subsection III.F. (Alternative Procedures and Variances); or

III.O.1.a.i(C)(2) Remove facility components coated or covered with friable asbestos-containing materials as units or in sections in accordance with subparagraph III.V.2. (Removing of Facility Components).

III.O.1.a.i(C)(3) Comply with the requirements of section III (Abatement, Renovation and Demolition Projects).

III.O.1.a.(ii). HEPA Vacuuming

All vacuuming of contaminated surfaces shall be done with a HEPA filter-equipped vacuum.

III.O.1.a.(iii). Wet Wiping

Wet wiping of contaminated surfaces prior to disassembly of containment barriers shall be done using rags and a bucket of clean or amended water.

III.O.1.b. Removal of Asbestos from Elevated Heights

For friable asbestos-containing materials that will be removed or stripped:

III.O.1.b.(i). Adequately wet the materials to ensure that they remain wet until they are collected for disposal in accordance with subsection III.R. (Waste Handling);

III.O.1.b.(ii). Carefully lower the packaged ACM to the ground or a lower floor, not dropping, throwing, sliding, or otherwise damaging or disturbing the ACM;

III.O.1.b.(iii). Transport the materials to the ground via dust-tight chutes or containers if they have been removed or stripped more than 50 feet above ground level and were not removed as units or in sections; and

III.O.1.b.(iv). Comply with the requirements of section III. (Abatement, Renovation and Demolition Projects).

III.O.2. Encapsulation

III.O.2.a. When spray-applying encapsulants they shall be applied using only airless spray equipment with nozzle pressure adjustable between four hundred (400) and fifteen hundred (1500) PSI and in accordance with the manufacturer's recommendations for the particular encapsulant.

III.O.3. Enclosure

III.O.3.a. If enclosure is chosen as the abatement technique, a solid structure (airtight walls and ceilings) shall be built around the facility component to prevent the release of ACM into the area beyond the enclosure and to prevent disturbance of ACM by casual contact during future maintenance operations. A containment barrier need not be erected when constructing an enclosure provided that the ACM will not be disturbed during the building of the enclosure. Such a permanent (i.e.,

for the life of the building) enclosure shall be built of new construction materials and shall be impact resistant and airtight. Before constructing the enclosure, the person conducting the asbestos abatement shall move all active electrical conduits, telephone lines, recessed lights, and pipes out of the area to be enclosed in order to ensure that the enclosure will not have to be reopened later for routine or emergency maintenance.

III.O.3.b. The master floor plans shall indicate the exact location and condition of the enclosed asbestos and this plan shall be kept in a separate asbestos file with the building superintendent or engineer.

III.P. CLEARING ABATEMENT PROJECTS

This subsection III.P applies to asbestos abatement projects in areas of public access, other than school buildings, where the amount of asbestos-containing material that will be abated exceeds the trigger levels. For clearance requirements in school buildings, see paragraph IV.G.9. (Completion of Response Actions).

The GAC, certified Air Monitoring Specialist, and the building owner shall ensure that all abatement projects are completed as described below.

All air monitoring and final visual inspections-required under this regulation shall be performed by certified Air Monitoring Specialists independent of the GAC to avoid possible conflict of interest.

III.P.1. Final Visual Inspection

At the conclusion of any abatement action and with only critical barriers still in place, a certified Air Monitoring Specialist, who is independent of the GAC, shall visually inspect each work area where such action was conducted, and behind the critical barriers, to determine whether all dust and debris has been removed. If any such dust or debris is found, the area shall be re-cleaned until no dust or debris is found. If a critical barrier is removed for cleaning purposes, the area behind the critical barrier shall be cleaned and the critical barrier immediately replaced.

III.P.2. [Reserved]

III.P.3. Final Clearance Air Monitoring and Sample Analyses

III.P.3.a. Sample Collection

III.P.3.a.(i). Once the area has passed a final visual inspection and no dust or debris has been found, the certified Air Monitoring Specialist shall collect air samples using aggressive sampling as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), to monitor air for clearance after each abatement project; except that fans and leaf blowers shall not be directed toward any known friable ACM remaining in the work area.

III.P.3.a.(ii). The total number of clearance air samples required to determine compliance with subsection III.P. (Clearing Abatement Projects) for a state-permitted abatement project involving greater than the trigger levels of ACM is indicated in the following table:

For each work area within the project where the amount of ACM is:	State-Permitted Project in Non-School Building		Response Action in School Building	
	Minimum # of samples to clear each of the following:		Minimum # of samples to clear each of the following:	
	Work area	Project	Work Area	Project
Less than 3 square feet/3 linear feet	1	5	5	5
From 3 square feet/3 linear feet up to 32 square feet/50 linear feet/volume equivalent of a 55-gallon drum	2	5	5 PCM or 13 TEM	5 PCM or 13 TEM
Greater than 32 square feet/50 linear feet/volume equivalent of a 55-gallon drum up to 160 square feet/260 linear feet/volume equivalent of a 55-gallon drum	5	5	5 PCM or 13 TEM	5 PCM or 13 TEM
Greater than 160 square feet/260 linear feet/volume equivalent of a 55-gallon drum	5	5	13 TEM	13 TEM

III.P.3.b. Clearance Criteria

III.P.3.b.(i). Except as provided in paragraph III.P.3.b.iii., an abatement action shall be considered complete when the average concentration of asbestos of five air samples collected within the abatement work area and analyzed by the TEM method in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), is not statistically significantly different, as determined by the Z-test calculation as found in that Appendix A, from the average asbestos concentration of five air samples collected at the same time outside the abatement work area and analyzed in the same manner, and the average asbestos concentration of the three field blanks described in that Appendix A, is below the filter background level of 70 structures per square millimeter (70 s/mm^2).

III.P.3.b.(ii). An action shall also be considered complete if the volume of air drawn for each of the five samples collected within the abatement work area is equal to or greater than 1,199 L of air for a 25-mm filter, or equal to or greater than 2,799 L of air for a 37-mm filter, and the average concentration of asbestos as analyzed by the TEM method in 40 C.F.R. Part 763 Appendix A to Subpart E (EPA 1995), for the five air samples does not exceed the filter background level of 70 s/mm^2, as defined in that Appendix A. If the average concentration of asbestos of the five air samples within the abatement work area exceeds 70 s/mm^2, or if the volume of air in each of the samples is less than 1,199 liters of air for a 25-mm filter, or less than 2,799 L of air for a 37-mm filter, the action shall be considered complete only when the requirements of subparagraph III.P.3.b.i, or III.P.3.b.iii, of this subsection III.P (Clearing Abatement Projects) are met.

III.P.3.b.(iii). The laboratory may analyze air-monitoring samples collected for clearance purposes by PCM to confirm completion of removal, encapsulation, or enclosure of ACM. The action shall be considered complete when the results of samples collected in the abatement work area and analyzed by PCM using the NIOSH Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.01 fibers per cubic centimeter, 0.01 f/cm^3,10,000 f/m^3). The analyst doing said analysis shall be NIOSH 582 or 582E trained.

III.P.3.C. Laboratory Accreditation

III.P.3.c.(i). The air samples collected under this subsection III.P, shall be analyzed for asbestos using laboratories accredited by the National Institute of Standards and Technology to conduct such analysis using transmission electron microscopy or, under circumstances permitted in this subsection III.P. (Clearing Abatement Projects), laboratories showing successful participation in the American Industrial Hygiene Association Proficiency Analytical Testing (PAT) Program for phase contrast microscopy.

III.P.3.c.(ii). Whenever on-site satellite labs are used for PCM analysis for final clearance purposes, all persons conducting said analysis shall be properly trained as an analyst pursuant to the AIHA Laboratory Quality Assurance Program and shall follow all quality control and quality assurance guidelines as set forth in the NIQSH Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, second supplement, August 1987. Satellite labs must be directly under the control of properly accredited laboratories pursuant to the requirements set forth in subparagraph III.P.3.b. (Clearance Criteria) above.

III.Q. TEAR-DOWN

This subsection III.Q, applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

The following tasks shall be performed during the tear-down portion of the abatement project:

- Removal of the critical barriers
- Removal of negative air machines(NAMs)
- Disassembly of the decontamination unit
- Disassembly of the waste load-out area

III.R. WASTE HANDLING

This subsection III.R applies to asbestos abatement projects in areas of public access and non-public access areas where any amount of asbestos-containing material has been removed.

III.R.1. Disposal Containers

Disposal containers shall be leak-tight and waterproof when sealed. Disposable bags shall be at least six-(6) mil polyethylene.

III.R.2. Handling Waste Material

Each person handling asbestos-containing waste material(ACWM) shall:

III.R.2.a. Seal all asbestos-containing waste material in leak-tight containers while wet and label the containers in accordance with subsection III.R.2.b (Labeling), below.

Appropriate containers and procedures shall be used to prevent all breakage, rupture or leakage during loading, shipping, transportation and storage of asbestos-containing waste material.

III.R.2.b. Affix warning labels to all ACWM or to their containers, with either of the following warnings:

Danger

Contains Asbestos Fibers

Avoid Creating Dust

Cancer and Lung Disease Hazard

Or

Caution

Contains Asbestos

Avoid Opening or Breaking Container

Breathing Asbestos is Hazardous To Your Health

III.R.2.c. Following an abatement project, temporary storage of ACWM shall be limited to 500 (five hundred), 55-gallon barrels, or the volumetric equivalent thereof, prior to disposal. Storage is permitted only on property owned or operated by the GAC or building owner. Temporary storage shall not exceed a time period of more than 6 months following the completion of the abatement action.

III.R.2.d. Discharge no visible emissions during the collection, processing (including incineration), packaging, transportation, or deposition of any ACWM generated by the source.

III.R.2.e. Dispose of ACWM in accordance with Colorado Department of Public and Environment Health, Hazardous Materials and Waste Management Division regulations.

III.R.2.f. All asbestos-containing wastewater shall be filtered to five (5) micrometers prior to discharge and shall be discharged to a sanitary sewer.

III.R.3. Follow the waste shipment procedures in accordance with the provisions of 40 C.F.R. Part 61 Section 150 (EPA 1995).

III.S. ABATEMENT OF SPECIAL MATERIALS

This subsection III.S applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

III.S.1. Resilient Floor Tile and Sheet Vinyl Flooring

III.S.1.a. Pursuant to paragraph III.E. (Notification), the person conducting the project must notify the Division of the intent to demolish, renovate, or perform asbestos abatement in any building, structure, facility or installation, or any portion thereof, which contains asbestos in any amount that exceeds the trigger levels whether friable or not.

III.S.1.b. Resilient floor tile, sheet vinyl flooring, and associated flooring adhesive which contain asbestos, are nonfriable unless the material is damaged to the extent that when dry it can be crumbled, pulverized or reduced to powder by hand pressure.

III.S.1.c. Provided that the requirements of Appendix B are followed as required, the requirements of following sections do not apply: section II (Certification0 Requirements), section III, subsections III G. (Permits), III.H. (Abatement Sequence), III.I. (Critical Barrier Construction), III.J. (Additional Engineering Controls), III K. (Decontamination Area), III.L. (Pre-cleaning of Surfaces), III.M. (Covering Fixed Objects), III.N. (Containment Components), III.O. (Abatement Methods), .III.P (Clearing Abatement Projects), and III.Q (Tear-Down).

If a person grinds, mechanically chips, drills, sands, bead blasts, sandblasts, mechanically powders the material or otherwise damages such material to render it friable, and the amount of the material exceeds the trigger levels, then the following sections do apply: sections I (Definitions), II (Certification Requirements) and III (Abatement, Renovation and Demolition Projects).

III.S.1.d. Sheet Vinyl Flooring

If utilizing the work practices set forth in Appendix B for the removal of sheet vinyl flooring, any Workers removing the flooring must have successfully completed an 8-hour employee training course which meets the training requirements for flooring Workers set forth in Appendix C to this regulation; furthermore, individuals supervising the removal of sheet vinyl flooring materials must have successfully completed the 8-hour employee training course and an additional training course for Supervisors which meets the training requirements for flooring Supervisors set forth in Appendix C to this regulation.

III.S.2. Asbestos Cement Products

Transite roofing shingles, transite siding and other asbestos cement products that remain nonfriable during removal are subject to the requirements of subsection III.E (Notifications). The transite roofing shingles, transite siding, or other asbestos cement products must be removed in accordance with paragraph III.S.4 (Other Nonfriable Asbestos-Containing Materials), below. If the transite roofing shingles, siding, other asbestos cement products become friable during removal, then sections I. (Definitions), II. (Certification Requirements), and III. (Abatement, Renovation and Demolition Projects) apply.

III.S.3. Asphaltic Materials

Tar impregnated roofing felts, asphalt-roofing tiles, roofing asphalts, roofing mastics, and asphaltic pipeline coatings that are nonfriable and will remain nonfriable during abatement are exempt from this regulation.

III.S.4. Other Nonfriable Asbestos-Containing Materials

III.S.4.a. Adequately wet the surface areas of the nonfriable ACM to prevent dust emissions throughout the removal process.

III.S.4.b. Remove the materials using hand removal methods or power tools that do not subject the material to cutting, grinding, sanding, bead blasting, sandblasting, or otherwise damage the material in such a way as to render it friable.

III.S.4.C. Remove the material carefully with minimal breakage and disturbance.

III.S.4.d. If the nonfriable material is to be disposed of, then it must be transported to the landfill that will accept nonfriable ACM. The landfill must be contacted prior to disposal to ensure that the nonfriable ACM is transported and packaged in accordance with the landfill's specific policy or regulation. If the materials have been rendered friable, they must be disposed of as friable asbestos-containing waste materials pursuant to subsection III.R. (Waste Handling).

III.S.5. Asbestos-Contaminated Soil

Any soil containing visible friable asbestos-containing material or any soil with greater than 1% friable asbestos content in the top 1′ of soil-is, for the purposes of this subsection, asbestos-contaminated soil. Where the surface area of the asbestos-contaminated soil exceeds the trigger levels, or the volume of contaminated soil to be

removed exceeds the volume equivalent of a 55-gallon drum, the GAC and the building owner shall comply with all of the requirements in subsection III.T. (Asbestos Spill Response), and shall remove gross, visible surface debris, and either remove the top 2" of soil, or seal the area with concrete or other impenetrable material.

III.T. ASBESTOS SPILL RESPONSE

The following procedures apply to all areas of public access, except school buildings, in which there has been a release of asbestos fibers due to a breach of the containment barrier on an abatement project, or due to any cause other than abatement of asbestos. For fiber releases in schools, see section IV. (School Requirements).

III.T.1. Major Asbestos Spills

In the event of an asbestos spill involving greater than the trigger levels, the building owner or contractor shall:

III.T.1.a. Restrict access to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident;

III.T.1.b. Shut off or temporarily modify the air handling system to prevent the distribution of asbestos fibers to other areas;

III.T.1.c. Immediately contact the Division by telephone, submit a notification in compliance with subsection III.E. (Notifications) and, if in an area of public access, apply for a permit in accordance with subsection III.G. (Permits);

III.T.1.d. Be exempted from the requirements to have a certified Supervisor on-site at all times, until such time as the immediate danger has passed. A person certified by the Division shall supervise any cleanup or asbestos abatement that must occur after the immediate danger has passed;

III.T.1.e. Using certified Supervisors and certified Workers in accordance with section II. (Certification Requirements) of this Regulation, seal all openings between the contaminated and uncontaminated areas and establish negative air pressure within the contaminated area in accordance with paragraph III.J. (Air Cleaning and Negative Pressure Requirements). This is to be accomplished using polyethylene sheeting to cover areas such as doorways, windows, elevator openings, corridor entrances, grills, drains, grates, diffusers and skylights;

III.T.1.f. HEPA vacuum or steam clean all carpets, drapes, upholstery, and other non-clothing fabrics in the contaminated area, or discard these materials;

III.T.1.g. Launder or discard contaminated clothing in accordance with subsection III.R (Waste Handling);

III.T.1.h. HEPA vacuum or wet clean all surfaces in the contaminated area;

III.T.1.i. Discard all materials in accordance with subsection III.R. (Waste Handling);

III.T.1.j. Following completion of subparagraphs III.T.1.a through III.T.1.i above, comply with air monitoring requirements as described in subsection III.P (Clearing Abatement Projects); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the area;

III.T.1.k. Comply with any other measures deemed necessary by the Division to protect public health.

III.T.2. Minor Asbestos Spills

In the event of an asbestos spill involving less than or equal to the trigger levels, the building owner or contractor should take the following non-mandatory steps:

III.T.2.a. Restrict entry to the area and post warning signs to prevent entry to the area by persons other than those necessary to respond to the incident;

III.T.2.b. Shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building;

III.T.2.c. Seal all openings between the contaminated and uncontaminated areas. This is to be accomplished by using polyethylene sheeting to cover all areas such as windows, doorways, elevator openings, corridor entrances, drains, grills, grates, diffusers and skylights;

III.T.2.d. HEPA vacuum or steam clean all carpets, draperies, upholstery and other non-clothing fabrics in the contaminated area, or discard all contaminated materials in accordance with subsection III.R (Waste Handling);

III.T.2.e. Launder or discard contaminated clothing in accordance with subsection III.R (Waste Handling);

III.T.2.f. HEPA vacuum or wet clean all non-fabric surfaces in the contaminated area;

III.T.2.g. Following completion of subparagraphs III.T.2.a through III.T.2.f above, conduct air monitoring as described in paragraph III.P.3 (Final Clearance Air Monitoring and Sample Analyses); air samples shall be collected aggressively as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), except that the air stream of the leaf blower shall not be directed at any friable ACM that remains in the work area.

III.U. MAXIMUM ALLOWABLE ASBESTOS LEVEL

At any time, the maximum allowable asbestos level (MAAL) shall not be exceeded in any area of public access.

All air monitoring required under this regulation shall be performed by certified Air Monitoring Specialists independent of the GAC to avoid possible conflict of interest.

III.U.1. Monitoring for the MAAL

III.U.1.a. During Normal Occupancy

For purposes of this paragraph III.U.1, air monitoring shall be conducted during normal occupancy and samples shall not be collected in an aggressive manner.

III.U.1.b. During Abatement

III.U.1.b.(i). Exhausting NAMs in a Building

If air from negative air machines (NAMs) must be exhausted to the interior of the building, air samples must be taken and analyzed by PCM or any equivalent method approved by the Division at least every day and meet the requirements of subsection III.U (Maximum Allowable Asbestos Level) to ensure that there is no breach in the filtering system. In the event that the maximum allowable asbestos level is exceeded, all of the requirements of subsection III.T (Asbestos Spill Response) must be met.

III.U.l.b.(ii). Outside Containment (Non-mandatory)

In the event that airborne fiber levels outside a containment in an area of public access exceed the MAAL when analyzed by PCM, the GAC shall either treat the affected area as an asbestos spill and comply with all the requirements in subsection III.T (Asbestos Spill Response) or, reanalyze the samples by transmission electron microscopy analysis in accordance with 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), within 24 hours. If the MAAL is exceeded by TEM, comply with section III.T (Asbestos Spill Response).

III.U.2. The Maximum Allowable Asbestos Level (MAAL)

III.U.2.a. PCM

If PCM is used as the method of analysis the standard is 0.01 fibers per cubic centimeter of air (f/cc), which is equivalent to 10,000 fibers per cubic meter of air (f/m^3). The NIOSH 7400 Method entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, shall be used to analyze samples. The number of samples to be taken shall be determined by the certified Air Monitoring Specialist.

III.U.2.b. TEM

Where TEM is used as the method of analysis, the standard is 70 structures/millimeter^2 (s/mm^2). TEM analysis shall be conducted pursuant to the protocol in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995).

III.U.2.C. Elevated Ambient Levels

Notwithstanding the provisions of clauses III.U.1.b.i and III.U.1.b.ii above, if the asbestos level in the outside ambient air which is adjacent to an asbestos project site or area of public access exceeds 70 s/mm^2 using TEM analysis or 0.01 fibers per cubic centimeter of air (10,000 f/m^3) using PCM analysis, whichever is applicable, the existing asbestos level in such air shall be the maximum allowable asbestos level.

III.U.3. What to do if the MAAL is Exceeded

III.U.3.a. Second Set by TEM

In the event that airborne asbestos fiber levels exceed the MAAL when analyzed by PCM, a second set of samples may be collected during normal occupancy, analyzed by transmission electron microscopy analysis, and calculated as an eight-hour time-weighted average (TWA) in accord with 29 C.F.R. Part 1910.1000(d)(1)(i), before any order of abatement is issued. The TEM sample(s) shall be collected in the same location(s) as the original PCM sample(s) and analyzed within 24 hours of the PCM sample(s).

III.U.3.b. Outside Containment

In the event that airborne fiber levels outside a containment in an area of public access exceed the MAAL when analyzed by PCM, the GAC shall either treat the affected area as an asbestos spill and comply with all the requirements in subparagraph III.T (Asbestos Spill Response) or, reanalyze the samples by transmission electron microscopy analysis in accordance with 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), within 24 hours. If the MAAL is exceeded by TEM, comply with subparagraph III.T (Asbestos Spill Response).

III.V. SPECIAL REMOVAL METHODS

This subsection III.V applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

III.V.1. Glovebag Removal

Glovebag removal methods shall only be allowed where the glovebag can be installed such that it completely surrounds the ACM to be removed without causing a fiber release.

III.V.1.a. Glovebags shall be at least 6-mil polyethylene in thickness and shall be seamless at the bottom.

III.V.1.b. Glovebags shall not be used in situations where the glovebag could come into contact with surfaces that exceed 150#deg# Fahrenheit.

III.V.1.c. Glovebags may be used only once and may not be moved.

III.V.1.d. For glovebag removals the GAC shall:

III.V.1.d.(i). erect secondary containment barriers where the amount of ACM to be removed in a functional space exceeds three (3) linear or three (3) square feet. In the event of a spill or a breach of the glovebag, the entire area enclosed by the secondary containment shall be cleaned utilizing HEPA vacuuming and wet wiping with all debris, filters, mop heads, and cloths disposed of as ACWM in leak tight containers;

III.V.1.d.(ii). tape or otherwise seal the glovebag to the area from which asbestos is to be removed. Glovebags shall be smoke tested for leaks and any leaks sealed prior to use;

III.V.1.d.(iii). adequately wet, then remove, the asbestos-containing material from the surface;

III.V.1.d.(iv). adequately wet any asbestos-containing material that has fallen from the surface into the enclosed bag using an airless sprayer and amended water or other materials or equipment equally effective in wetting;

III.V.1.d.(v). thoroughly clean and wet wipe the surface until no traces of asbestos- containing material can be seen;

III.V.1.d.(vi). encapsulate the rough edges of any asbestos-containing material that will remain on the surface after the glovebag has been removed. This shall be done prior to the removal of the glovebag.;

III.V.1.d.(vii). evacuate the air from the glovebag using a HEPA filter-equipped vacuum prior to removing the glovebag;

III.V.1.d.(viii). ensure that the final visual inspection and clearance air monitoring requirements of subsection III.P. (Clearing Abatement Projects) are met;

III.V.1.d.(ix). handle and dispose of all waste materials as required in subsection III.R (Waste Handling).

III.V.2. Facility Component Removal

Only those facility components in which the ACM is well adhered to the component may be taken out of the facility as units or in sections and be exempt from the containment requirements in subsection III.N (Containment Components) provided that the GAC:

III.V.2.a. Adequately wet the facility component pursuant to subparagraph III.O.2.a.(i). (Wetting) then wrap the facility component in six (6) mil polyethylene prior to removing the facility component; and

III.V.2.b. Ensure that the abatement project is cleared as required in subsection III.P. (Clearing Abatement Projects) and that the ACWM is disposed of as required in subsection III.R (Waste Handling). NOTE: The use of a secondary containment to facilitate the required air clearance monitoring is recommended, but not required.

III.V.2.C. Once the components are taken out of the facility, if the components are to be stripped, comply with sections I. (Definitions), II. (Certification Requirements) and III (Abatement, Renovation and Demolition Projects).

III.W. STRUCTURALLY UNSOUND BUILDINGS

For facilities described in subparagraph III.E.l.e, the Division may suspend any abatement work practice requirements, the implementation of which may endanger personnel who will be removing asbestos from the facility. The GAC shall apply for a variance from the Division in accordance with the requirements of subsection III.F (Alternative Procedures and Variances). During wrecking operations, that portion of the facility that contains friable asbestos-containing

material must be kept adequately wet commencing from prior to the demolition through delivery of the demolition debris to a landfill that will accept friable ACM.

III.X. EXEMPTIONS

The following sections of the regulation contain exemptions from certain requirements. Please refer to the indicated section for the specific details of the exemption.

- If the asbestos-containing material to be abated is less than the trigger levels, then only subsection III.R (Waste Handling) applies in section III.

- Inspection requirements may be exempt if an architect or Building Inspector certifies a building constructed after October 12, 1988 to be asbestos-free. See subparagraph III.A.1.d.

- If you own a SFRD that is your primary residence and you choose to do the abatement yourself, certification is not required. See subparagraph III.B.1.c.

- A Project Manager doesn't need to be independent of the GAC if the project manager is working in-house. See paragraph III.D.2.

- If you own a SFRD, which is your primary residence, you may opt out of having your SFRD deemed an area of public access. See paragraph III.E.2.

- There are three situations in which a NAM does not have to be fitted with a HEPA filter. See subparagraph III.J.1.c.

- Certain materials are exempted from many of the abatement requirements. See subsection III.S (Abatement of Special Materials).

- During an emergency, the requirement for a certified Supervisor to be on-site may be temporarily suspended. See subparagraph III.T.1.d.

- While performing facility component removal, full containment is not required. See paragraph III.V.2 (Facility Component Removal).

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in Section I.

IV. SCHOOL REQUIREMENTS

IV.A. SCOPE AND PURPOSE

The requirements in this section of the regulation mirrors the Asbestos Hazard Emergency Response Act of 1986 (AHERA) (15 U.S.C. 2646) that was enacted to identify, manage and reduce exposure to asbestos in schools.

This section of the regulation requires local education agencies to identify friable and nonfriable asbestos-containing material (ACM) in public and private elementary and secondary schools by visually inspecting school buildings for such materials, sampling such materials if they are not assumed to be ACM, and having samples analyzed by appropriate techniques referred to in this rule. The rule requires local education agencies to submit management plans to the Colorado Department of Public Health and Environment, Air Pollution Control Division by October 12, 1988, or if a deferral is applied for and received from the Division, May 9,1989. The LEA must begin to implement the plans by July 9, 1989, and complete implementation of the plans in a timely

fashion. In addition, local education agencies are required to use persons who have been certified to conduct inspections, reinspections, develop management plans, or perform response actions. The rule also includes recordkeeping requirements. LEAs may contractually delegate their duties under this rule, but they remain responsible for the proper performance of those duties. Local education agencies are encouraged to consult with the EPA Regional Asbestos Coordinator or the Division for assistance in complying with this rule.

IV.A.1. Local education agencies must provide for the transportation of asbestos in accordance with section III of this regulation. Disposal of asbestos-containing waste is governed by rules promulgated by the Colorado Board of Health, and implemented by the Department's Hazardous Materials and Waste Management Division.

IV.B. GENERAL LEA RESPONSIBILITIES

Each LEA shall:

IV.B.1. Ensure that the activities of any persons who perform inspections, reinspections, and periodic surveillance, develop and update management plans, and develop and implement response actions, including operations and maintenance, are carried out in accordance with section IV of this Regulation No. 8.

IV.B.2. Ensure that all custodial and maintenance employees are properly trained as required by this section IV and other applicable Federal and/or State regulations (e.g., the Occupational Safety and Health Administration asbestos standard for construction, and the EPA Worker protection rule.)

IV.B.3. Ensure that workers and building occupants, or their legal guardians, are informed at least once each school year about inspections, response actions, and post-response action activities, including periodic reinspection and surveillance activities that are planned or in progress.

IV.B.4. Ensure that short-term workers (e.g., telephone repair workers, utility workers, or exterminators) who may come in contact with asbestos in a school are provided information regarding the locations of ACBM and suspected ACBM assumed to be ACM. Documentation of these notifications shall become part of the management plan.

IV.B.5. Ensure that warning labels are posted in accordance with subsection IV.L (Warning Labels).

IV.B.6. Ensure that management plans are available for inspection and notification of such availability has been provided as specified in the management plan under subsection IV.J. (School Management Plans)

IV.B.7. Designated Person

IV.B.7.a. Designate a person to ensure that requirements under this section are properly implemented.

IV.B.7.b. Ensure that the designated person receives adequate training to perform duties assigned under section IV.B. Such training shall provide, as necessary, basic knowledge of:

IV.B.7.b(i). Health effects of asbestos.

IV.B.7.b.(ii). Detection, identification, and assessment of ACM.

IV.B.7.b.(iii). Options for controlling ACM.

IV.B.7.b.(iv). Asbestos management programs.

IV.B.7.b.(v). Relevant Federal and State regulations concerning asbestos, including those in this Commission Regulation No. 8 and those of the Occupational Safety and Health Administration, U.S. Department of Labor, the U.S. Department of Transportation and the U.S. Environmental Protection Agency.

IV.B.8. Consider whether any conflict of interest may arise from the interrelationship among certified personnel and whether that should influence the selection of certified personnel to perform activities under this section.

IV.C. INSPECTION AND REINSPECTION

IV.C.1. Inspection

IV.C.1.a. Except as provided in subparagraph IV.C.1.b. below, before October 12, 1988 or by May 9, 1989, if a deferral has been applied for and received from the Division, local education agencies shall inspect each school building that they lease, own, or otherwise use as a school building to identify all locations of friable and nonfriable ACM.

IV.C.1.b. Any building leased or acquired on or after October 12, 1988, that is to be used as a school building shall be inspected as described under paragraphs IV.C.1.c. and IV.C.1.d. below prior to use as a school building. In the event that emergency, use of an uninspected building as a school building is necessitated, such buildings shall be inspected within 30 days after commencement of such use.

IV.C.1.c. Each inspection shall be made by a certified Inspector.

IV.C.1.d. For each area of a school building, except as excluded under subsection IV.M. (Exclusions), each person performing an inspection shall:

IV.C.1.d.(i). Visually inspect the area to identify the locations of all suspected ACM.

IV.C.1.d.(ii). Touch all suspected ACM to determine whether they are friable.

IV.C.1.d.(iii). Identify all homogeneous areas of friable suspected ACBM and all homogeneous areas of nonfriable suspected ACM.

IV.C.1.d.(iv). Assume that some or all of the homogeneous areas are ACM, and, for each homogeneous area that is not assumed to be ACM, collect and submit for analysis bulk samples under subsections IV.D. (Sampling) and IV.E. (Analysis).

IV.C.1.d.(v). Assess, under subsection IV.F. (Assessment), friable material in areas where samples are collected, friable material in areas that are assumed to be ACM, and friable ACM identified during a previous inspection.

IV.C.1.d.(vi). Record the following and submit to the person designated under subsection IV.B. (General LEA Responsibilities) a copy of such record for inclusion in the management plan within 30 days of the inspection:

IV.C.1.d.(vi).(A).An inspection report with the date of the inspection signed by each certified person making the inspection, and his or her certification number.

IV.C.1.d.(vi).(B).An inventory of the locations of the homogeneous areas where samples are collected, exact location where each bulk sample is collected, dates that samples are collected, homogeneous areas where friable suspected ACBM is assumed to be ACM, and homogeneous areas where nonfriable suspected ACBM is assumed to be ACM.

IV.C.1.d.(vi).(C). A description of the manner used to determine sampling locations, the name and signature of each certified Inspector who collected the samples, and his or her certification number.

IV.C.1.d.(vi).(D). A list of whether the homogeneous areas identified under sub clause IV.C.l.d.(vi)(B) above are surfacing material, thermal system insulation, or miscellaneous material.

IV.C.1.d.(vi).(E).Assessments made of friable material, the name and signature of each certified Inspector making the assessment, and his or her certification number.

IV.C.2. Reinspection

IV.C.2.a. At least once every three years after a management plan is in effect, each LEA shall conduct a reinspection of all friable and nonfriable known or assumed ACBM in each school building that they lease, own, or otherwise use as a school building.

IV.C.2.b. Each inspection shall be made by a certified Inspector.

IV.C.2.c. For each area of a school building, each person performing a reinspection shall:

IV.C.2.c.(i). Visually reinspect, and reassess, under subsection IV.F. (Assessment) the condition of all friable known or assumed ACBM.

IV.C.2.c.(ii). Visually inspect material that was previously considered nonfriable ACBM and touch the material to determine whether it has become friable since the last inspection or reinspection.

IV.C.2.c.(iii). Identify any homogeneous areas with material that has become friable since the last inspection or reinspection.

IV.C.2.c.(iv). For each homogeneous area of newly friable material that is already assumed to be ACBM, bulk samples may be collected and submitted for analysis in accordance with subsections IV.D. (Sampling) and IV.E. (Analysis).

IV.C.2.c.(v). Assess, under subsection IV.F. (Assessment), the condition of the newly friable material in areas where samples are collected, and newly friable materials in areas that are assumed to be ACBM.

IV.C.2.c.(vi). Reassess, under subsection IV.F. (Assessment), the condition of friable known or assumed ACBM previously identified.

IV.C.2.c.(vii). Record the following and submit to the person designated under subsection IV.B. (General LEA Responsibilities), a copy of such record for inclusion in the management plan within 30 days of the reinspection:

IV.C.2.c.(vii).(A). The date of the reinspection, the name and signature of the person making the reinspection, his or her certification number, and any changes in the condition of known or assumed ACBM.

IV.C.2.c.(vii).(B). The exact locations where samples are collected during the reinspection, a description of the manner used to determine sampling locations, the name and signature of each certified Inspector who collected the samples, and his or her certification number.

IV.C.2.c.(vii).(C). Any assessments or reassessments made of friable material, the name and signature of the certified Inspector making the assessments, and his or her certification number.

IV.C.3. General

Thermal system insulation that has retained its structural integrity and that has an undamaged protective jacket or wrap that prevents fiber release shall be treated as nonfriable and therefore is subject only to periodic surveillance and preventive measures as necessary.

IV.D. SAMPLING

IV.D.1. Surfacing Material

A certified Inspector shall collect, in a statistically random manner that is representative of the homogeneous area, bulk samples from each homogeneous area of friable surfacing material that is not assumed to be ACM, and shall collect the samples as follows:

IV.D.1.a. At least three bulk samples shall be collected from each homogeneous area that is 1,000 ft^2, or less, except as provided in subparagraph IV.E.3.b.

IV.D.1.b. At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 ft^2 but less than or equal to 5,000 ft^2, except as provided in subparagraph IV.E.3.b.

IV.D.l.c. At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 ft^2, except as provided in subparagraph IV.E.3.b.

IV.D.1.d. Sampling of friable surfacing materials should follow the guidance provided in the EPA publication "Simplified Sampling Scheme for Friable Surfacing Materials" (EPA 560/5-85-030a) (1985).

IV.D.2. Thermal System Insulation

IV.D.2.a. Except as provided in paragraphs IV.D.2.b through IV.D.2.d below, a certified Inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

IV.D.2.b. Collect at least one bulk sample from each homogeneous area of patched thermal system insulation that is not assumed to be ACM if the patched section is less than 6 linear or square feet.

IV.D.2.c. In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system that is not assumed to be ACM where cement or plaster is used on fittings such as tees, elbows, or valves, except as provided under subparagraph IV.E.3.b., analysis.

IV.D.2.d. Bulk samples are not required to be collected from any homogeneous area where the certified Inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACBM.

IV.D.3. Miscellaneous Material

In a manner sufficient to determine whether material is ACM or not ACM, a certified Inspector shall collect bulk samples from each homogeneous area of friable miscellaneous material that is not assumed to be ACM.

IV.D.4. Nonfriable suspected ACBM

If any homogeneous area of nonfriable suspected ACBM is not assumed to be ACM, then a certified Inspector shall collect, in a manner sufficient to determine whether the material is ACM or not ACM, bulk samples from the homogeneous area of nonfriable suspected ACBM that is not assumed to be ACM.

IV.E. ANALYSIS

IV.E.1. Local education agencies shall have bulk samples, collected under subsection IV.D. (Sampling) and submitted for analysis, analyzed for asbestos using

laboratories accredited by the National Institute of Standards and Technology (NIST). Local education agencies shall use laboratories, which have received interim accreditation for polarized light microscopy analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program until the National Institute of Standards and Technology (NIST) PLM laboratory accreditation program for PLM is operational.

IV.E.2. Bulk samples shall not be composited for analysis and shall be analyzed for asbestos content by PLM, using the United States Environmental Protection Agency's August 1994 Method EPA/600/R-93/116J "Method for the Determination of Asbestos in Bulk Building Materials."

IV.E.3. Interpreting Bulk Sample Results

IV.E.3.a. A homogeneous area is considered not to contain ACM only if the results of all samples required to be collected from the area show asbestos in amounts of one percent or less.

IV.E.3.b. A homogeneous area shall be determined to contain ACM based on a finding that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than one percent.

IV.E.4. The name and address of each laboratory performing an analysis, the date of analysis, and the name and signature of the person performing the analysis shall be submitted to the person designated under subsection IV.B. (General LEA Responsibilities) for inclusion into the management plan within 30 days of the analysis.

IV.F. ASSESSMENT

IV.F.1. [Untitled]

IV.F.1.a. For each inspection and reinspection conducted under paragraph IV.C.1. and IV.C.2. (Inspections/Reinspections), and previous inspections specified under subsection IV.M. (Exclusions), the LEA shall have a certified Inspector provide a written assessment of all friable known or assumed ACBM in the school building.

IV.F.1.b. Each certified Inspector providing a written assessment shall sign and date the assessment, provide his or her certification number, and submit a copy of the assessment to the person designated under subsection IV.B. (General LEA Responsibilities) for inclusion in the management plan within 30 days of the assessment.

IV.F.2. The Inspector shall classify and give reasons in the written assessment for classifying the ACBM and suspected ACBM assumed to be ACM in the school building into one of the following categories:

IV.F.2.a. Damaged or significantly damaged thermal system insulation ACM.

IV.F.2.b. Damaged friable surfacing ACM.

IV.F.2.c. Significantly damaged friable surfacing ACM.

IV.F.2.d. Damaged or significantly damaged friable miscellaneous ACM.

IV.F.2.e. ACBM with potential for damage.

IV.F.2.f. ACBM with potential for significant damage.

IV.F.2.g. Any remaining friable ACBM or friable suspected ACBM.

IV.F.3. Assessment may include the following considerations:

IV.F.3.a. Location and the amount of the material, both in total quantity and as a percentage of the functional space.

IV.F.3.b. Condition of the material, specifying:

IV.F.3.b.(i). Type of damage or significant damage (e.g., flaking, blistering, water damage, or other signs of physical damage).

IV.F.3.b.(ii). Severity of damage (e.g., major flaking, severely torn jackets, as opposed to occasional flaking, minor tears to jackets).

IV.F.3.b.(iii). Extent or spread of damage over large areas or large percentages of the homogeneous area.

IV.F.3.c. Whether the material is accessible.

IV.F.3.d. The material's potential for disturbance.

IV.F.3.e. Known or suspected causes of damage or significant damage (e.g., air erosion, vandalism, vibration, water).

IV.F.3.f. Preventive measures, which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.

IV.F.3.g. The LEA shall select a person certified to develop management plans to review the results of each inspection, reinspection, and assessment for the school building and to conduct any other necessary activities in order to recommend in writing to the LEA appropriate response actions. The certified person shall sign and date the recommendation, and provide his or her certification number, and submit a copy of the recommendation to the person in the management plan.

IV.G. RESPONSE ACTIONS

IV.G.1. The LEA shall select and implement in a timely manner the appropriate response actions in this section consistent with the assessment conducted in subsection IV.F. The response actions selected shall be sufficient to protect human health and the environment. The LEA may then select, from the response actions, which protect human health and the environment, that action which is the least burdensome method. Nothing in this section shall be construed to prohibit removal of ACBM from a school building at any time, should removal be the preferred response action of the LEA.

IV.G.2. If damaged or significantly damaged thermal system insulation ACM is present in a building, the LEA shall:

IV.G.2.a. At least repair the damaged area.

IV.G.2.b. Remove the damaged material if it is not feasible, due to technological factors, to repair the damage.

IV.G.2.C. Maintain all thermal system insulation ACM and its covering in an intact state and undamaged condition.

IV.G.3. Selecting the Response Action

IV.G.3.a. If damaged friable surfacing ACM or damaged friable miscellaneous ACM is present in a building, the LEA shall select from among the following response actions: encapsulation, enclosure, removal, or repair of the damaged material.

IV.G.3.b. In selecting the response action from among those, which meet the definitional standards in subsection IV.I. (Training & Periodic Surveillance) the LEA shall determine which of these response actions protects human health and the environment. For purposes of determining which of these response actions are the least burdensome, the LEA may then consider local circumstances, including occupancy and use patterns within the school building, and its economic concerns, including short- and long-term costs.

IV.G.4. If significantly damaged friable surfacing ACM or significantly damaged friable miscellaneous ACM is present in a building the LEA shall:

IV.G.4.a. Immediately isolate the functional space and restrict access, unless isolation is not necessary to protect human health and the environment.

IV.G.4.b. Remove the material in the functional space or, depending upon whether enclosure or encapsulation would be sufficient to protect human health and the environment, enclose or encapsulate.

IV.G.5. If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for damage is present in a building, the LEA shall at least implement an operations and maintenance (O&M) program, as described under subsection IV.H. (Operations & Maintenance).

IV.G.6. If any friable surfacing ACM, thermal system insulation ACM, or friable miscellaneous ACM that has potential for significant damage is present in a building, the LEA shall:

IV.G.6.a. Implement an O&M program, as described under subsection IV.H. (Operations & Maintenance).

IV.G.6.b. Institute preventive measures appropriate to eliminate the reasonable likelihood that the ACM or its covering will become significantly damaged, deteriorated, or delaminated.

IV.G.6.c. Remove the material as soon as possible if appropriate preventive measures cannot be effectively implemented, or unless other response actions are determined to protect human health and environment. Immediately isolate the area and restrict access if

necessary to avoid an imminent and substantial endangerment to human health or the environment.

IV.G.7. Response actions including removal, encapsulation, enclosure, or repair, other than small-scale, short-duration repairs, shall be designed and conducted by persons certified to design and conduct response actions.

IV.G.8. The requirements of this section IV of Regulation No. 8 in no way supersede the Worker Protection and work practice requirements under 29 C.F.R. 1926.58 (Occupational Safety and Health Administration (OSHA 1988) Asbestos, 40 C.F.R. Part 763, Subpart G (EPA 1995) (Asbestos Abatement Projects), and 40 C.F.R. Part 61, Subpart M (EPA 1995) (National Emission Standards for Hazardous Air Pollutants-Asbestos) and section III of this regulation.

IV.G.9. Completion of Response Actions.

IV.G.9.a. At the conclusion of any action to remove, encapsulate, or enclose ACBM or material assumed to be ACBM, a person designated by the LEA shall visually inspect each functional space where such action was conducted to determine whether the action has been properly completed.

IV.G.9.b. Collection and Analysis of Air Samples

IV.G.9.b.(i). A person designated by the LEA shall collect air samples using aggressive sampling as described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), to monitor air for clearance after each removal enclosure and encapsulation project involving ACBM, except for projects that are less than three square or three linear feet.

IV.G.9.b.(ii). Local education agencies shall have air samples collected under this section analyzed for asbestos using laboratories accredited by the National Bureau of Standards to conduct such analysis using transmission electron microscopy or, under circumstances permitted in this section, laboratories enrolled in the American Industrial Hygiene Association Proficiency Analytical Testing Program for phase contrast microscopy.

IV.G.9.b.(iii). Until the National Bureau of Standards TEM laboratory accreditation program is operational, local educational agencies shall use laboratories that use the protocol described in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995).

IV.G.9.c. Except as provided in subparagraphs IV.G.9.d., IV.G.9.e., IV.G.9.f., or IV.G.9.g. of this subsection, an action to remove, encapsulate, or enclose ACBM shall be considered complete when the average concentration of asbestos of five air samples collected within the affected functional space and analyzed by the TEM method in 40 C.F.R. Part 763, Appendix A to Subpart E (EPA 1995), is not statistically significantly different, as determined by the Z-test calculation found in Appendix A from the average asbestos concentration of five air samples collected at the same time outside the affected functional space and analyzed in the same manner, and the average asbestos concentration

of the three field blanks described in Appendix A is below the filter background level, as defined in Appendix A, of 70 structures per square millimeter (70 s/mm^2).

IV.G.9.d. An action may also be considered complete if the volume of air drawn for each of the five samples collected within the affected functional space is equal to or greater than 1,199 L of air for a 25mm filter or equal to or greater than 2,799 L of air for a 37 mm filter, and the average concentration of asbestos as analyzed by the TEM method in 40 C.F.R. Part 763, Appendix A to Subpart E (1995), for the five air samples does not exceed the filter background level, as defined in Appendix A, of 70 structures per square millimeter (70 s/mm^2). If the average concentration of asbestos of the five air samples within the affected functional space exceeds 70 s/mm^2, or if the volume of air in each of the samples is less than 1,199 L of air for a 25 mm filter or less than 2,799 L of air for a 37 mm filter, the action shall be considered complete only when the requirements of subparagraph IV.G.9.c., IV.G.9.e., IV.G.9.f, or IV.G.9.g. of this section are met.

IV.G.9.e. At any time, a LEA may analyze air monitoring samples collected for clearance purposes by phase contrast microscopy to confirm completion of removal, encapsulation, or enclosure of ACBM that is greater than small-scale, short-duration and less than or equal to the trigger levels. The action shall be considered complete when the results of samples collected in the affected functional space and analyzed by phase contrast microscopy using the National Institute for Occupational Safety and Health (NIOSH) Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.01 fibers per cubic centimeter (0.01 f/cm^3, 10,000 f/m^3) of air). The method is available at the Office of the Air Quality Control Commission.

IV.G.9.f. Until October 7, 1989, a LEA may analyze air-monitoring samples collected for clearance purposes by PCM to confirm completion of removal. encapsulation, or enclosure of ACBM that is less than or equal to 3,000 square feet or 1,000 linear feet. The action shall be considered complete when the results of samples collected in the affected functional space and analyzed by PCM using the NIOSH Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than or equal to a limit of quantification for PCM (0.01 fibers per cubic centimeter, 0.01 f/cm^3, 10,000 f/m^3). The method is available at the Office of the Colorado Air Quality Control Commission.

IV.G.9.g. From October 8, 1989, to October 7, 1990, a LEA may analyze air monitoring samples collected for clearance purposes by PCM to confirm completion of removal, encapsulation, or enclosure of ACBM that is less than or equal to 1,500 square feet or 500 linear feet. The action shall be considered complete when the results of samples collected in the affected functional space and analyzed by PCM using the NIOSH Method 7400 entitled “Fibers” published in the NIOSH Manual of Analytical Methods, 3rd Edition, Second Supplement, August 1987, show that the concentration of fibers for each of the five samples is less than

or equal to a limit of quantification for PCM (0.01 fibers per cubic centimeter, 0.01 f/cm^3, 10,000 f/m^3). The method is available at the Office of the Colorado Air Quality Control Commission.

IV.G.9.h. To determine the amount of ACBM affected under subparagraphs IV.G.9.e., IV.G.9.f., or IV.G.9.g. of this subsection, the LEA shall add the total square or linear footage of ACBM within the containment barriers used to isolate the functional space for the action to remove, encapsulate, or enclose the ACBM. Contiguous portions of material subject to such action conducted concurrently or at approximately the same time within the same school building shall not be separated to qualify under subparagraph IV.G.9.e., IV.G.9.f., or IV.G.9.g. of this subsection.

IV.G.9.i. All monitoring and final visual inspections required under this regulation shall be performed by certified air monitoring specialists independent of the GAC to avoid possible conflict of interest.

IV.H. OPERATIONS AND MAINTENANCE

IV.H.1. Applicability

The LEA shall implement an operations, maintenance, and repair (O&M) program under this section whenever any friable ACBM is present or assumed to be present in a building that it leases, owns, or otherwise uses as a school building. Any material identified as nonfriable ACBM or nonfriable assumed ACBM must be treated as friable ACBM for purposes of this section when the material is about to become friable as a result of activities performed in the school building.

IV.H.2. Cleaning

IV.H.2.a. Initial Cleaning

Unless the building has been cleaned using equivalent methods within the previous six months, all areas of a school building where friable ACBM, damaged or significantly damaged thermal system insulation ACM, or friable suspected ACBM assumed to be ACM are present shall be cleaned at least once after the completion of the inspection required by section IV.C.1 and before the initiation of any response action, other than O&M activities or repair, according to the following procedures:

IV.H.2.a.(i). HEPA vacuum or steam-clean all carpets.

IV.H.2.a.(ii). HEPA vacuum or wet-clean all other floor and all other horizontal surfaces.

IV.H.2.a.(iii). Dispose of all debris, filters, mop heads, and cloths in sealed, leak-tight containers.

IV.H.2.b. Additional Cleaning

The certified management planner shall make a written recommendation to the LEA whether additional cleaning is needed, and if so, the methods and frequency of such cleaning.

IV.H.3. Operations and Maintenance Activities

The LEA shall ensure that the procedures described below to protect building occupants shall be followed for any operations and maintenance activities disturbing friable ACBM.

IV.H.3.a. Restrict entry into the area by persons other than those necessary to perform the maintenance project, either by physically isolating the area or by scheduling.

IV.H.3.b. Post signs to prevent entry by unauthorized persons.

IV.H.3.c. Shut off or temporarily modify the air-handling system and restrict other sources of air movement.

IV.H.3.d. Use work practices or other controls, such as, wet methods, protective clothing, HEPA vacuums, mini-enclosures, and glovebags, as necessary to inhibit the spread of any released fibers.

IV.H.3.e. Clean all fixtures or other components in the immediate work area.

IV.H.3.f. Place the asbestos debris and other cleaning materials in a sealed, leak-tight container.

IV.H.4. Maintenance Activities Other than Small-Scale, Short-Duration

The response action for any maintenance activities disturbing friable ACBM, other than small-scale, short-duration maintenance activities, shall be designed by persons certified to design response actions and conducted by persons certified to conduct response actions.

IV.H.5. Fiber Release Episodes

IV.H.5.a. Minor fiber release episode-The LEA shall ensure that the procedures described below are followed in the event of a minor fiber release episode (i.e., the falling or dislodging of 3 square or linear feet or less of friable ACBM):

IV.H.5.a.(i). Thoroughly saturate the debris using wet methods.

IV.H.5.a.(ii). Clean the area, as described in subsection IV.H.2. of this section.

IV.H.5.a.(iii). Place the asbestos debris in a sealed, leak-tight container.

IV.H.5.a.(iv). Repair the area of damaged ACM with materials such as asbestos-free spackling, plaster, cement, or insulation, or seal with latex paint or an encapsulant, or immediately have the appropriate response action implemented as required by section IV.H.3. (Operations & Maintenance).

IV.H.5.b. Major fiber release episode - The LEA shall ensure that the procedures described below are followed in the event of a major fiber

release episode (i.e., the falling or dislodging of more than 3 square or linear feet of friable ACBM):

IV.H.5.b.(i). Restrict entry into the area and post signs to prevent entry into the area by persons other than those necessary to perform the response action.

IV.H.5.b.(ii). Shut off or temporarily modify the air-handling system to prevent the distribution of fibers to other areas in the building.

IV.H.5.b.(iii). The response action for any major fiber release episode must be designed by persons certified to design response actions and conducted by persons certified to conduct response actions, as specified in subsection II.A. (General Requirements).

IV.I. TRAINING AND PERIODIC SURVEILLANCE

IV.I.1. Training

IV.I.1.a. The LEA shall ensure, prior to the implementation of the O&M provisions of the management plan, that all members of its maintenance and custodial staff (custodians, electricians, heating/air conditioning engineers, plumbers, etc.) who may work in a building that contains ACBM receive awareness training of at least two hours, whether or not they are required to work with ACBM. New custodial and maintenance employees shall be trained within 60 days after commencement of employment. Annual refresher training shall be provided and documented in the management plan for the school. Training shall include, but not be limited to:

IV.I.1.a.(i). Information regarding asbestos and its various uses and forms.

IV.I.1.a.(ii). Information on the health effects associated with asbestos exposure.

IV.I.1.a.(iii). Locations of ACBM identified throughout each school building in which they work.

IV.I.1.a.(iv). Recognition of damage, deterioration, and delamination of ACBM.

IV.I.1.a.(v). Name and telephone number of the person designated to carry out general LEA responsibilities under subsection IV.B. (General LEA Responsibilities) and the availability and location of the management plan.

IV.I.1.b. The LEA shall ensure that all members of its maintenance and custodial staff who conduct any activities that will result in the disturbance of ACBM shall receive training described in subsection IV.I.1.a. above and 14 hours of additional training. Annual refresher training shall be provided and documented in the management plan for the school. Additional training shall include, but not be limited to:

IV.I.1.b.(i). Descriptions of the proper methods of handling ACBM.

IV.I.1.b.(ii). Information on the use of respiratory protection as contained in the EPA/NIOSH Guide to Respiratory Protection for the Asbestos Abatement Industry, September 1986 (EPA 560/OPTS-86-001), available from the office of the Colorado Air Quality Control Commission, and other personal protection measures.

IV.I.1.b.(iii). The provisions of section IV and Appendices A, B, C, and D of 52 Federal Register 41857-41898 (October 30,1987), EPA regulations contained in 40 C.F.R. Part 763, Subpart G, and in 40 C.F.R. Part 61, Subpart M, and QSHA regulations contained in 29 C.F.R. 1926.1101.

IV.I.1.b.(iv). Hands-on training in the use of respiratory protection, other personal protection measures, and good work practices.

IV.I.1.c. LEA maintenance and custodial staff who have attended EPA-approved asbestos training or received equivalent training for Q&M and periodic surveillance activities involving asbestos shall be considered trained for the purposes of this section.

IV.I.2. Periodic Surveillance

IV.I.2.a. At least once every six months after a management plan is in effect, each LEA shall conduct periodic surveillance in each building that it leases, owns, or otherwise uses as a school building that contains ACBM or is assumed to contain ACBM.

IV.I.2.b. Each person performing periodic surveillance shall:

IV.I.2.b.(i). Visually inspect all areas that are identified in the management plan as ACBM or assumed ACBM.

IV.I.2.b.(ii). Record the date of the surveillance, his or her name, and any changes in the condition of the materials.

IV.I.2.b.(iii). Submit to the person designated to carry out general LEA responsibilities under subsection IV.B. (General LEA Responsibilities) a copy of such record for inclusion in the management plan.

IV.J. SCHOOL MANAGEMENT PLANS

IV. J.I. Submittal of Management Plans

IV.J.1.a. On or before October 12, 1988, or by May 9, 1989, if the LEA has applied for and received a deferral from the Division each LEA shall develop an asbestos management plan for each school, including all buildings that they lease, own, or otherwise use as school buildings, and submit the plan in the form specified by the Division. The plan may be submitted in stages that cover a portion of the school buildings under the authority of the LEA. The fee for Division review of management plans will be $45.00.

IV.J.1.b. If a building to be used as part of a school is leased or otherwise acquired after October 12, 1988, the LEA shall include the new building in the management plan for the school prior to its use as a school building. The revised portions of the management plan shall be submitted to the Division.

IV.J.1.c. If a LEA begins to use a building as a school after October 12, 1988, the LEA shall submit a management plan for the school to the Division prior to its use as a school.

IV.J.2. If the Division does not disapprove a management plan within 90 days after receipt of the plan, the LEA shall implement the plan.

IV.J.3. Each LEA must begin implementation of its management plan on or before July 9, 1989, and complete implementation in a timely fashion.

IV J.4. Each LEA shall maintain and update its management plan to keep it current with ongoing operations and maintenance, periodic surveillance, inspection, reinspection, and response action activities. All provisions required to be included in the management plan under this section shall be retained as part of the management plan, as well as any information that has been revised to bring the plan up-to-date.

IV.J.5. The Management plan shall be developed by a certified management planner and shall include:

IV.J.5.a. A list of the name and address of each school building and whether the school building contains friable ACBM, nonfriable, ACBM, or friable and nonfriable suspected ACBM assumed to be ACM.

IV.J.5.b. For each inspection conducted before December 14, 1987:

IV.J.5.b.(i). The date of the inspection.

IV.J.5.b.(ii). A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of any homogeneous or sampling area where material was sampled for ACM, and, if possible, the exact locations where bulk samples were collected, and the dates of collection.

IV.J.5.b.(iii). A copy of the analyses of any bulk samples, dates of analyses, and a copy of any other laboratory reports pertaining to the analyses.

IV.J.5.b.(iv). A description of any response actions or preventive measures taken to reduce asbestos exposure, including if possible, the names and addresses of all contractors involved, start and completion dates of the work, and results of any air samples analyzed during and upon completion of the work.

IV.J.5.b.(v). A description of assessments, required to be made under section IV.F. of material that was identified before December 14, 1987, as friable ACBM or friable suspected ACBM assumed to be ACM, arid the name and signature, and Colorado

certification number of each certified person making the assessments.

IV.J.5.c. For each inspection and reinspection conducted under section IV.C. (Inspections & Reinspections):

IV.J.5.c.(i). The date of the inspection or reinspection and the name and signature, and the Colorado certification number of each certified Inspector performing the inspection or reinspection.

IV.J.5.c.(ii). A blueprint, diagram, or written description of each school building that identifies clearly each location and approximate square or linear footage of homogeneous areas where material was sampled for ACM, the exact location where each bulk sample was collected, date of collection, homogeneous areas where friable suspected ACBM is assumed to be ACM, and where nonfriable suspected ACBM is assumed to be ACM.

IV.J.5.c.(iii). A description of the manner used to determine sampling locations, and the name and signature of each certified Inspector collecting samples, and his or her Colorado certification number.

IV.J.5.c.(iv). A copy of the analyses of any bulk samples collected and analyzed, the name and address of any laboratory that analyzed bulk samples, a statement that the laboratory meets the. applicable requirements of paragraph IV.E.l., the date of analysis, and the name and signature of the person performing the analysis.

IV.J.5.c.(v). A description of assessments, required to be made under subsection IV.F. (Assessment), of all ACBM and suspected ACBM assumed to be ACM, and the name, signature, and Colorado certification number of each person making the assessments.

IV.J.5.d. The name, address, and telephone number of the person designated under subsection IV.B. (General LEA Responsibilities) to ensure that the duties of the LEA are carried out, and the course name, and dates and hours of training taken by that person to carry out the duties.

IV.J.5.e. The recommendations made to the LEA regarding response actions, under subsection IV.F. (Assessment), the name, signature, and his or her Colorado certification number.

IV.J.5.f. A detailed description of preventive measures and response actions to be taken, including methods to be used, for any friable ACBM, the locations where such measures and action will be taken, reasons for selecting the response action or preventive measure, and a schedule for beginning and completing each preventive measure and response action.

IV.J.5.g. A signed statement that the individual is certified under this Regulation No. 8 from each individual who inspects for ACBM or who will

design or carry out response actions, except for operations and maintenance.

IV.J.5.h. A detailed description in the form of a blueprint, diagram, or in writing of any ACBM or suspected ACBM assumed to be ACM which remains in the school once response actions are undertaken pursuant to subsection IV.G. (Response Actions). This description shall be updated as response actions are completed.

IV J.5.i. A plan for reinspection under subsection IV.C. (Inspections & Reinspections) and a plan for operations and maintenance activities under subsection IV.H. (Operations & Maintenance), and a plan for periodic surveillance under subsection IV.I. (Training & Periodic Surveillance), a description of the recommendation made by the management planner regarding additional cleaning under subsection IV.H.2.b. (Additional Cleaning) as part of an operations and maintenance program, and the response of the LEA to that recommendation.

IV.J.5.j. A description of steps taken to inform Workers and building occupants, or their legal guardians, about inspections, reinspections, response actions, and post-response action activities that are planned or in progress.

IV.J.5.k. An evaluation of the resources needed to complete response actions successfully and carry out reinspection, operations and maintenance activities, periodic surveillance and training.

IV.J.5.1. The name of each consultant who contributed to the management plan, and a statement from each such consultant that the consultant is certified under Colorado State law, and a statement that the person is accredited by an EPA approved course (specify course title and sponsor) under section 206(c) of the Title II of TSCA.

IV.J.6. A LEA may require each management plan to contain a statement signed by a certified management plan developer that such plan is in compliance with this section IV (School Requirements). Such statement may not be signed by a person who, in addition to preparing or assisting in preparing the management plan, also implements (or will implement) the management plan.

IV.J.7. Availability of Management Plan

IV.J.7.a. Upon submission of a management plan to the Division, a LEA shall keep a copy of the plan in its administrative office. The management plans shall be available, without cost or restriction, for inspection by representatives of EPA and the Division, the public, including teachers, other school personnel and their representatives, and parents. The LEA may charge a reasonable cost to make copies of management plans.

IV.J.7.b. Each LEA shall maintain in its administrative office a complete, updated copy of a management plan for each school under its administrative control or direction. The management plans shall be available, during normal business hours, without cost or restriction, for inspection by representatives of EPA and the Division, the public, including teachers, other school personnel and their representatives, and

parents. The LEA may charge a reasonable cost to make copies of management plans.

IV.J.7.c. Each school shall maintain in its administrative office a complete, updated copy of the management plan for that school. Management plans shall be available for inspection, without cost or restriction, to Workers before work begins in any area of a school building. The school shall make management plans available for inspection to representatives of EPA and the Division, the public, including parents, teachers, and other school personnel and their representatives within five working days after receiving a request for inspection. The school may charge a reasonable cost to make copies of the management plan.

IV.J.7.d. Upon submission of its management plan to the Division and at least once each school year, the LEA shall notify in writing parent, teacher, and employee organizations of the availability of management plans and shall include in the management plan a description of the steps taken to notify such organizations, and a dated copy of the notification. In the absence of any such employees, the LEA shall provide written notice to that relevant group of the availability of the management plan, a description of the steps taken to notify such groups and a dated copy of the notification.

IV.J.8. Records required under subsection IV.K. (Recordkeeping) shall be made by local education agencies and maintained as part of the management plan.

IV.J.9. Each management plan must contain a true and correct statement, signed by the individual designated by the LEA under subsection IV.B. (General LEA Responsibilities) which certifies that the general, LEA responsibilities, as stipulated by subsection IV.B. (General LEA Responsibilities), have been met or will be met.

IV.K. RECORDKEEPING

IV.K.1. Records required under this section shall be maintained in a centralized location in the administrative office of both the school and the LEA as part of the management plan. For each homogeneous area where all ACBM has been removed, the LEA shall ensure that such records are retained for three years after the next reinspection required under subparagraph IV.C.2.a. or for an equivalent period.

IV.K.2. For each preventive measure and response action taken for friable and nonfriable suspected ACBM assumed to be ACM, the LEA shall provide:

IV.K.2.a. A detailed written description of the measure or action, including methods used, the location where the measure or action was taken, reasons for selecting the measure or action, start and completion dates of the work, names and addresses of all contractors involved and Colorado Certification numbers, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

IV..K.2.b. The name and signature of any person collecting any air sample required to be collected at the completion of certain response actions specified by section IV.G.9., the locations

where samples were collected, date of collection, the name and address of the laboratory analyzing the samples, the date of analysis, the results of the analysis, the method of analysis, the name and signature of the person performing the analysis, and a statement that the laboratory meets the applicable requirements of clause IV.G.9.b.ii.

IV.K.3. For each person required to be trained under subparagraph IV.I.l.a. or b., the LEA shall provide the person's name and job title, the date that training was completed by that person, the location of the training, and the number of hours completed in such training.

IV.K.4. For each time that periodic surveillance under subparagraph IV.I.2.a. is performed, the LEA shall record the name of each person performing the surveillance, the date of surveillance and any changes in the conditions of the materials.

IV.K.5. For each time that cleaning under paragraph IV.H.2. (Cleaning) is performed, the LEA shall record the name of each person performing the cleaning, the date of such cleaning, the locations cleaned, and the methods used to perform such cleaning.

IV.K.6. For each time that operations and maintenance activities under paragraph IV.H.3. (Operations & Maintenance Activities.) are performed, the LEA shall record the name of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

IV.K.7. For each time that major asbestos activity under paragraph IV.H.4. (Maintenance Activities) is performed the LEA shall provide the name and signature, and the Colorado Certification number of each person performing the activity, the start and completion dates of the activity, the locations where such activity occurred, a description of the activity including preventive measures used, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

IV.K.8. For each fiber release episode under paragraph IV.H.5. (Fiber Release Activities) the LEA shall provide the date and location of the episode, the method of repair, preventive measures or response action taken, the name of each person performing the work, and if ACBM is removed, the name and location of storage or disposal site of the ACM.

IV.L. WARNING LABELS

The LEA shall attach a warning label immediately adjacent to any friable and nonfriable ACBM and suspected ACBM assumed to be ACM located in routine maintenance areas (such as boiler rooms) at each school building. This shall include:

IV.L.1. Friable ACBM that was responded to by a means other than removal.

IV.L.2. ACBM for which no response action was carried out.

IV.L.3. All labels shall be prominently displayed in readily visible locations and shall remain posted until the ACBM that is labeled is removed.

IV.L.4. The warning label shall read, in print which is readily visible because of large size or bright color, as follows: CAUTION: ASBESTOS. HAZARDOUS. DO NOT DISTURB WITHOUT PROPER TRAINING AND EQUIPMENT.

IV.M. EXCLUSIONS

IV.M.1. A LEA shall not be required to perform an inspection under paragraph IV.C.l. (Inspections) in any sampling area or homogeneous area of a school building where:

IV.M.1.a. A certified Inspector has determined that, based on sampling records, friable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The Inspector shall sign and date a statement to that effect with his or her Colorado Certification number and, within 30 days after such determination, submit a copy of the statement to the person designated under subsection IV.B. (General LEA Responsibilities) for inclusion in the management plan. However, a certified Inspector shall assess the friable ACBM under subsection IV.F. (Assessment).

IV.M.1.b. A certified Inspector has determined that, based on sampling records, nonfriable ACBM was identified in that homogeneous or sampling area during an inspection conducted before December 14, 1987. The Inspector shall sign and date a statement to that effect with his or her certification number and, within 30 days after such determination, submit a copy of the statement to the person designated under subsection IV.B. (General LEA Responsibilities) for inclusion in the management plan. However, a certified Inspector shall identify whether material that was nonfriable has become friable since that previous inspection and shall assess the newly friable ACBM under subsection IV.F. (Assessment).

IV.M.1.c. Based on sampling records and inspection records, a certified Inspector has determined that no ACBM is present in the homogeneous or sampling area and the records show that the area was sampled, before December 14, 1987 in substantial compliance with paragraph IV.C. 1. (Inspections) that for purposes of this section means in a random manner and with a sufficient number of samples to reasonably ensure that the area is not ACBM.

IV.M.1.c.(i). The certified Inspector shall sign and date a statement, with his or her certification number that the homogeneous or sampling area determined not to be ACBM was sampled in substantial compliance with paragraph IV.C.l. (Inspections).

IV.M.1.c.(ii). Within 30 days after the Inspector's determination, the LEA shall submit a copy of the Inspector's statement to the Division and shall include the statement in the management plan for that school.

IV.M.1.d. The Division has determined that, based on sampling records and inspection records, no ACBM is present in the homogeneous or

sampling area and the records show that the area was sampled before December 14, 1987, in substantial compliance with paragraph IV.C.l. (Inspections). Such determination shall be included in the management plan for that school.

IV.M.1.e. A certified Inspector has determined that, based on records of an inspection conducted before December 14, 1987, suspected ACBM identified in that homogeneous or sampling area is assumed to be ACM. The Inspector shall sign and date a statement to that effect, with his or her State of Colorado Certification number and, within 30 days of such determination, submit a copy of the statement to the person designated under subsection IV.B. (General LEA Responsibilities) for inclusion in the management plan. However, a certified Inspector shall identify whether material that was nonfriable suspected ACBM assumed to be ACM has become friable since the previous inspection and shall assess the newly friable material and previously identified friable suspected ACBM assumed to be ACM under subsection IV.F. (Assessment).

IV.M.1.f. Based on inspection records and contractor and clearance records, a certified Inspector has determined that no ACBM is present in the homogeneous or sampling area where asbestos removal operations have been conducted before December 14, 1987, and shall sign and date a statement to that effect and include his or her State of Colorado Certification number. The LEA shall submit a copy of the statement to the Division and shall include the statement in the management plan for that school.

IV.M.1.g. An architect or project engineer responsible for the construction of a new school building built after October 12, 1988, or a certified Inspector signs a statement that no ACBM was specified as a building material in any construction document for the building, or, to the best of his or her knowledge, no ACBM was used as a building material in the building. The LEA shall submit a copy of the signed statement of the architect, project engineer, or certified Inspector to the Division and shall include the statement in the management plan for that school.

IV.M.2. The exclusion, under subparagraphs IV.M.1.a through IV.M.1.d of this subsection, from conducting the inspection under paragraph IV.C.1 (Inspections) shall apply only to homogeneous or sampling areas of a school building that were inspected and sampled before October 17, 1987. The LEA shall conduct an inspection under paragraph IV.C.l (Inspections) of all areas inspected before October 17, 1987 that were not sampled or were not assumed to be ACM.

IV.M.3. If ACBM is subsequently found in a homogeneous or sampling area of a LEA local education agency that had been identified as receiving an exclusion by a certified Inspector under subparagraphs IV.M.1.c, d., and e., of this section, or an architect, project engineer or certified Inspector under subparagraph IV.M.1.g of this section, the LEA shall have 180 days following the date of identification of ACBM to comply with this section IV (School Requirements).

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in Section I.

V. STATE BUILDING REQUIREMENTS

V.A. SCOPE AND PURPOSE

State agencies shall follow the assessment procedures prescribed by this section prior to conducting any response action for friable ACM in an area of public access that exceeds the trigger levels. The prescribed assessment procedures require state agencies to identify friable and potentially friable ACM; sample such materials; assess the condition of suspected ACM; and conduct air monitoring to determine the level of fibers in the air. In addition, state agencies are required to use individuals who have been certified as Inspectors and Management Planners (see section II) to complete the inspections and make recommendations to building managers as to the appropriate response action to be taken.

V.B. GENERAL STATE AGENCY RESPONSIBILITIES

Each state agency shall:

V.B.1. Ensure that the activities of all persons who perform inspections or conduct asbestos abatement actions are carried out in accordance with sections I, II, III and V of this regulation.

V.B.2. Designated Asbestos Coordinator

V.B.2.a. Designate an asbestos coordinator to ensure that the requirements of this section are properly implemented.

V.B.2.b. Ensure that the asbestos coordinator receives adequate training to perform duties assigned under this section. Such training shall provide, as necessary, basic knowledge of:

V.B.2.b.(i). Health effects of asbestos.

V.B.2.b.(ii). Detection, identification, and assessment of ACM.

V.B.2.b.(iii). Options for controlling ACM.

V.B.2.b.(iv). Asbestos management programs.

V.B.2.b.(v). Relevant Federal and State regulations concerning asbestos, including those in this Regulation and those of the U.S. Department of Transportation and the U.S. Environmental Protection Agency.

V.B.2.C. A person who has received “Inspector” training and certification according to section II (Certification Requirements) is deemed to be adequately trained to function as the asbestos coordinator.

V.C. INSPECTIONS

V.C.1. Prior to conducting an asbestos response action in an area of public access that exceeds the trigger levels in any state-owned or state-leased building, state agencies shall inspect the affected area of such buildings to identify all locations of friable and potentially friable ACM. Potentially friable ACM is any ACM that can reasonably be expected to become friable as a result of anticipated renovation or demolition work.

V.C.2. Each inspection shall be made by a certified Inspector.

V.C.3. Except as excluded under subsection V.H (Exclusion), the person performing an inspection under this section shall:

V.C.3.a. Visually inspect the area to identify the locations of all suspected ACM.

V.C.3.b. Touch all suspected ACM to determine whether they are friable.

V.C.3.C. Identify all homogeneous areas of friable suspected ACM and all homogeneous areas of potentially friable suspected ACM.

V.C.3.d. Pursuant to subsection V.D (Sampling); collect bulk samples from each suspect homogeneous area and submit such samples for analysis pursuant to subsection V.E (Analysis).

V.C.3.e. Develop a written assessment of the extent, condition and types of materials in the area. Such assessment shall be performed pursuant to subsection V.F (Assessment).

V.C.3.f. Record the following and submit to the Asbestos Coordinator under subsection V.B (General State Agency Responsibilities), a copy of such record.

V.C.3.f.(i). An inspection report with the date of the inspection signed by the certified person making the inspection, and his or her certification number.

V.C.3.f.(ii). An inventory of the locations of the homogeneous areas where samples are collected, exact locations where each bulk sample is collected, and dates that samples are collected.

V.C.3.f.(iii). A list identifying each homogeneous area listed under paragraph V.C.3.c. above as surfacing material, thermal system insulation, or miscellaneous material.

V.C.3.f.(iv). Assessments made of friable and potentially friable material, the name and signature of each certified Inspector making the assessment, and his or her certification number.

V.D. SAMPLING

V.D.1. Surfacing material

Prior to conducting an asbestos response action in an area of public access that exceeds the trigger levels in any state-owned or state-leased building, the State Agency shall insure that a certified Inspector shall collect, in a randomly distributed manner that is representative of the homogeneous area, bulk samples from each homogeneous area of suspect friable and potentially friable, surfacing material. The samples shall be collected as follows:

V.D.1.a. At least three bulk samples shall be collected from each homogeneous area that is 1,000 square feet or less.

V.D.1.b. At least five bulk samples shall be collected from each homogeneous area that is greater than 1,000 square feet but less than or equal to 5,000 square feet.

V.D.1.c. At least seven bulk samples shall be collected from each homogeneous area that is greater than 5,000 square feet.

V.D.2. Thermal system insulation

V.D.2.a. Except as provided in subparagraphs V.D.2.b., c. and d. of this section, a certified Inspector shall collect, in a randomly distributed manner, at least three bulk samples from each homogeneous area of thermal system insulation that is not assumed to be ACM.

V.D.2.b. Collect at least one bulk sample from each homogeneous area of patched thermal system insulation if the patched section is less than 6 linear or square feet.

V.D.2.C. In a manner sufficient to determine whether the material is ACM or not ACM, collect bulk samples from each insulated mechanical system where cement or plaster is used on fittings such as tees, elbows, or valves. An area may be determined to contain ACM based on a single positive asbestos sample as described in subparagraph V.E.3.b.

V.D.2.d. Bulk samples are not required to be collected from any homogeneous area where the certified Inspector has determined that the thermal system insulation is fiberglass, foam glass, rubber, or other non-ACM.

V.D.3. Miscellaneous material

In a manner sufficient to determine whether material is ACM or not ACM, a certified Inspector shall collect bulk samples from each homogeneous area of friable miscellaneous material that is suspected to be ACM.

V.D.4. The state agency shall perform air sampling prior to any response action that in an area of public access exceeds the trigger levels. The procedures described in paragraph III.U. (Maximum Allowable Asbestos Level), shall be followed.

V.E. ANALYSIS

V.E.1. State agencies shall have bulk samples, collected under subsection V.D (Sampling) analyzed for asbestos by laboratories accredited by the National Bureau of Standards (NBS). State agencies shall use laboratories that have received interim accreditation for polarized light microscopy analysis under the EPA Interim Asbestos Bulk Sample Analysis Quality Assurance Program until the NBS PLM laboratory accreditation program for PLM is operational.

V.E.2. Bulk samples shall not be composited for analysis.

V.E.3. Interpreting Bulk Sample Results

V.E.3.a. A homogeneous area is considered not to contain ACM only if the results of all samples submitted for analysis show asbestos in amounts of one percent or less.

V.E.3.b. A homogeneous area shall be determined to contain ACM based on a finding that the results of at least one sample collected from that area shows that asbestos is present in an amount greater than one percent.

V.E.4. The name and address of each laboratory performing an analysis submitted to the asbestos coordinator designated under subsection V.B (General State Agency Responsibilities).

V.E.5. Air samples shall be analyzed according to the procedures described in paragraph III.U. (Maximum Allowable Asbestos Level).

V.F. ASSESSMENT

V.F.1. [Untitled]

V.F.1.a. For each inspection conducted under subsection V.D (Exclusion) and previous inspections specified under subsection V.H the state agency shall have a certified Inspector provide a written assessment of all triable material that is known or assumed ACM in a state building.

V.F.1.b. Each certified Inspector providing a written assessment shall sign and date the assessment, provide his or her certification number, and submit a copy of the assessment to the Asbestos Coordinator designated under subsection V.B (General State Agency Requirements).

V.F.2. The Inspector shall classify and give reasons in the written assessment for classifying the ACM and suspected ACM assumed to be ACM in the state building into one of the following categories:

V.F.2.a. Damaged or significantly damaged thermal system insulation ACM.

V.F.2.b. Damaged friable surfacing ACM.

V.F.2.C. Significantly damaged friable surfacing ACM.

V.F.2.d. Damaged or significantly damaged friable miscellaneous ACM.

V.F.2.e. ACM with potential for damage.

V.F.2.f. ACM with potential for significant damage.

V.F.2.g. Any remaining friable ACM or friable material suspected to be ACM.

V.F.2.h. Undamaged material known or suspected to be ACM.

V.F.3. Assessment shall include the following considerations:

V.F.3.a.. Location and the amount of the material, both in total quantity and as a percentage of the functional space.

V.F.3.b.. Condition of the material, specifying:

V.F.3.b.(i). Type of damage or significant damage (e.g., flaking, blistering, water damage, or other signs of physical damage).

V.F.3.b.(ii). Severity of damage (e.g., major flaking, severely torn jackets, as opposed to occasional flaking, minor tears to jackets).

V.F.3.b.(iii). Extent or spread of damage over large areas or large percentages of the homogeneous area.

V.F.3.c. Whether the material is accessible by building occupants.

V.F.3.d. The material's potential for disturbance.

V.F.3.e. Known or suspected causes of damage or significant damage (e.g., air erosion, vandalism, vibration, water).

V.F.3.f. Preventive measures, which might eliminate the reasonable likelihood of undamaged ACM from becoming significantly damaged.

V.F.3.g. The results of any air monitoring.

V.F.4. The state agency shall select a person certified to develop management plans (see section II) to recommend, in writing to the state agency the appropriate response actions. Prior to making a recommendation, such certified person shall review all inspections and assessments, and may conduct any other activities necessary to support his or her recommendations. The certified person shall sign and date the recommendation, and provide his or her certification number, and submit a copy of the recommendations to the asbestos coordinator.

V.G. RECORDKEEPING

V.G.1. For each response action taken, the Asbestos Coordinator for each state agency shall document in a file to be maintained with building records:

V.G.1.a. A detailed written description of the measure or action, including methods used; the location where the measure or action was taken; reasons for selecting the measure or action; start and completion dates of the work; names and addresses of all contractors involved and certification numbers; and if ACM is removed, the name and location of storage or disposal site of the ACM.

V.G.1.b. The name and signature of any person collecting any air samples required to be collected by subsection V.D (Sampling), the locations where samples were collected, date of collection, the name and address of the laboratory analyzing the samples, the date of analysis, the results of the analysis, the method of analysis, the name and signature of the person performing the analysis, and a statement that the laboratory meets the accreditation requirements of clause III.G.9.b.(ii).

V.G.2. For each exclusion provided by subsection V.H. (Exclusions) below, a statement signed by a certified Inspector that meets the requirements of subsection V.H. (Exclusions) shall be included in the record.

V.H. EXCLUSIONS

V.H.1. A state agency shall not be required to perform an inspection under paragraph V.C.1. (Inspections) in any area of a state building where:

V.H.1.a. A certified Inspector has determined that, based on sampling records, friable or potentially friable ACM was identified in that homogeneous or sampling area during an inspection conducted before April 30, 1989. The Inspector shall sign and date a statement to that effect with his or her certification number and include such a statement as part of the record required by subsection V G. (Recordkeeping). However, a certified Inspector/management planner shall assess the friable ACBM under subsection V.F. and a certified Air Monitoring Specialist shall conduct air monitoring, if not already completed.

V.H.1.b. Based on sampling records and inspection records, a certified Inspector has determined that no ACM is present in the homogeneous or sampling area and the records show that the area was sampled, before April 30, 1989, in substantial compliance with section V.C.1 (Inspections), which for purposes of this section means in a random manner and with a sufficient number of samples to reasonably ensure that the area is free of ACM. The certified Inspector shall sign and date a statement, with his or her certification number that the homogeneous or sampling area determined not to be ACM was sampled in substantial compliance with section V.D.1. (Surfacing Materials).

V.H.1.c. Based on inspection records a certified Inspector has determined that no ACM is present in the homogeneous or sampling area because asbestos removal operations have been conducted before April 30, 1989. The Inspector shall sign and date a statement to that effect and include his or her certification number. The state agency shall include the statement as part of the recordkeeping for that agency.

V.H.1.d. An architect or project engineer responsible for the construction of a new state building built after April 30, 1989, or a certified Inspector signs a statement that no ACM was specified as a building material in any construction document for the building, or, to the best of his or her knowledge, no ACM was used as a building material in the building. The state agency shall place a copy of the signed statement in asbestos records for the agency.

V.H.2. The exclusion, under subparagraph V.H.1.a. through d. of this subsection, from conducting the inspection under paragraph V.C.1 (Inspections) shall apply only to homogeneous or sampling areas of a building that were inspected and sampled before April 30, 1989.

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in Section I.

VI. USE OF ASBESTOS IN THE MANUFACTURING, COMMERCE AND CONSTRUCTION INDUSTRIES

VI.A. STANDARD FOR ASBESTOS MILLS

Each owner or operator of an asbestos mill shall discharge no visible emissions to the ambient air from the asbestos mill and use the methods specified by paragraph III.J.I. (Air Cleaning and Negative Pressure Requirements) to clean emissions containing particulate asbestos material before they escape to, or are vented to, the ambient air.

VI.B. STANDARD FOR ROAD WAYS

No owner or operator of a roadway may deposit asbestos tailings or asbestos-containing waste material on that roadway, unless it is a temporary roadway on an area of asbestos ore deposits.

VI.C. STANDARD FOR MANUFACTURING

VI.C.1. Applicability: This paragraph applies to the following manufacturing operations using commercial asbestos.

VI.C.1.a. The manufacture of cloth, cord, wicks, tubing, tape, twine, rope, thread, yarn, roving, lap, or other textile materials.

VI.C.1.b. The manufacture of cement products.

VI.C.1.c. The manufacture of fireproofing and insulating materials.

Vl.C.1.d. The manufacture of friction products.

VI.C.1.e. The manufacture of paper, millboard, and felt.

VI.C.1.f. The manufacture of floor tile.

VI.C.1.g. The manufacture of paints, coatings, caulks, adhesives, and sealants.

VI.C.1.h. The manufacture of plastics and rubber materials.

VI.C.1.i. The manufacture of chlorine utilizing asbestos diaphragm technology.

VI.C.I.j. The manufacture of shotgun shell wads.

VI.C.1.k. The manufacture of asphalt concrete.

VI.C.2. Standard: Each owner or operator of any of the manufacturing operations to which this subsection VI.C. (Standards for Manufacturing) applies shall:

VI.C.2.a. Discharge no visible emissions to the ambient air from these operations or from any building or structure in which they are conducted; and

VI.C.2.b. Use the methods specified in paragraph III.J.1. (Air Cleaning and Negative Pressure Requirements) to clean emissions from these operations containing particulate asbestos material before they escape to, or are vented to, the ambient air.

VI.D. STANDARD FOR SPRAYING

The owner or operator of an operation in which asbestos-containing materials are spray applied shall comply with the following requirements:

VI.D.1. Use materials that contain one percent asbestos or less on a dry weight basis for spray-on application on buildings, structures, pipes, and conduits, except as provided in subparagraph VI.D.1.b. below, and:

VI.D.1.a. Notify the Division at least 20 days before beginning the spraying operation. Include the following information in the notice:

(A) Name and address of owner or operator.

(B) Location of spraying operation.

(C) Procedures to be followed to meet the requirements of paragraph VI.D (Standard for Spraying).

VI.D.1.b. Discharge no visible emissions to the ambient air from the spray-on application of the asbestos-containing material and/or use the methods specified by paragraph III.J.1. (Air Cleaning and Negative Pressure Requirements) to clean emissions containing particulate asbestos material before they escape to, or are vented to, the ambient air.

VI.D.2. The requirements of subparagraph VI.D.1.a. above do not apply to the spray-on application of materials where the asbestos fibers in the materials are encapsulated with a bituminous or resinous binder during spraying and the materials are not friable after drying.

VI.E.1. STANDARD FOR FABRICATING

VI.E.1. Applicability. This paragraph applies to the following fabricating operations using commercial asbestos:

VI.E.1.a. The fabrication of cement building products.

VI.E.1.b. The fabrication of friction products, except those operations that primarily install asbestos friction materials on motor vehicles.

VI.E.1.c. The fabrication of cement or silicate board for ventilation hoods; ovens; electrical panels; laboratory furniture; bulkheads, partitions, and ceilings for marine construction; and flow control devices for the molten metal industry.

VI.E.2. Standard. Each owner or operator of any of the fabricating operations to which this subsection VI.E. (Standard for Fabricating) applies shall:

VI.E.2.a. Discharge no visible emissions to the ambient air from any of the operations or from any building or structure in which they are conducted; and

VI.E.2.b. Use the methods specified by paragraph III.J.I. (Air Cleaning and Negative Pressure Requirements) to clean emissions containing particulate asbestos material before they escape to, or are vented to, the ambient air.

VI.F. STANDARD FOR INSULATING MATERIALS

No owner or operator of a facility may install or reinstall on a facility component any insulating materials that contain commercial asbestos if the materials are either molded and friable or wet-applied and friable after drying. The provisions of this subsection do not apply to spray-applied insulating materials regulated under subsection VI.D. (Standard for Spraying).

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in Section I.

VII. STATEMENT OF BASIS AND PURPOSE

VII.A. AMENDMENT TO SECTION II - INCORPORATION OF THE EPA MODEL ACCREDITATION PLAN BY REFERENCE (March 21, 1996)

Background

The Asbestos Hazard Emergency Response Act of 1986 (AHERA) (15 U.S.C. 2646) was enacted to identify, manage and reduce exposure to asbestos in schools. The Asbestos School Hazard Abatement Reauthorization Act of 1990 (ASHARA) (Public Law 101-637) extended the training and certification requirements of AHERA to public and commercial buildings. Both acts require the Environmental Protection Agency (EPA) to promulgate minimum standards for the conduct of this training. In addition, states are mandated by both acts to either adopt EPA's Model Accreditation Plan (MAP), as presented in 40 CFR Part 763, or create programs that are at least as stringent as the EPA MAP. The state act contemplates adoption of the pertinent federal training requirements in 25-7-503 (1)(f)(I). Through this rulemaking, the Commission is incorporating by reference the Model Accreditation Plan into Air Quality Control Commission Regulation Number 8, Part B, section II to comply with federal and state laws.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-503(1)(f)(I) provides authority to promulgate regulations regarding the training required to apply for state asbestos certification. This regulation will establish appropriate minimum training standards that will meet both state and federal mandates.

Purpose

Regulation 8 generally provides protection to Colorado citizens from exposure to asbestos, a Class A carcinogen, caused by improper abatements due to inadequate training of asbestos Workers, Supervisors, Inspectors, Management Planners and Project Designers. This rule will protect against potentially adverse economic impacts that might result against course providers in Colorado. This rule also helps protect against adverse health and environmental effects that may be caused by improperly trained asbestos Workers. In addition, this rule will meet the requirements of federal law (AHERA) and state law (Colorado Air Quality Control Act).

VII.B. REVISIONS RESULTING FROM HB 95-1016 (September 19, 1996)

Basis

The Commission adopted revisions to Regulation No. 8, Part B, recommended by the Division to comply with state legislative directives, and to make other revisions reflecting changes in the federal program and appropriate changes to make the state program more effective and clear. A variety of recommended revisions were appropriate given that Regulation No. 8 has not been reopened and revised for over three years, apart from a recent limited revision regarding the EPA Model Accreditation Plan, and it was necessary to bring the regulation up to date.

The state asbestos program is not part of the State Implementation Plan (SIP), and the revisions approved by the Commission today will not be submitted to EPA as part of Colorado's SIP.

Specific Statutory Authority

Specific authority exists for the Commission's revisions in §25-7-105(10), and §25-7-501 et seq., C.R.S. In 1995 the Colorado legislature enacted HB 95-1016 amending Part 5, Asbestos Control, to require a variety of changes to the program. Section 25-7-503 provides the Commission with

many separate specific authorities including, for example, specifying abatement practices and procedures, assessing notification fees, prescribing inspection and monitoring requirements, enforcing the maximum allowable asbestos level of 0.01 fibers per cubic centimeter, and requiring training and examinations. Other sections in Part 5 provide authority for specific requirements related, for example, to certification of personnel involved in asbestos abatement. Specific authority within Part 5 supports each of the revisions adopted by the Commission today.

Purpose

The Commission revises Regulation No. 8, Part B, regarding asbestos regulation to effectuate recent state legislative directives, to ensure the public is protected by minimizing the release of asbestos, to address changes to the federal National Emissions Standard for Hazardous Air Pollutants (NESHAP) Subpart M regarding asbestos, and to update the regulation for efficiency and clarity. The Commission adopts the substantive changes recommended by the Division and relies upon the record to support those changes. The Commission adopts the Division's proposals to eliminate unnecessary administrative text where it has been found in the regulation. Also, the Commission adopts various incorporations by reference recommended by the Division to bring Regulation No. 8, Part B, into conformity with the Colorado APA.

The Commission raises the minimum scope of asbestos abatement subject to the program as recommended by the Division to conform to the NESHAP for asbestos and as directed in §25-7-503(1)(b), C.R.S. The Commission acknowledges certain statutory changes that are prescriptive from HB 95-1016, e.g., the effect of a plea of nolo contendere (§25-7-508(2)(a)(II)(C), C.R.S.), and prohibition from seeking recertification within one year after the Division revokes certification for a violation of the regulation (§25-7-508(6), C.R.S.). The Commission approves the Division devising application procedures to offer certificates for a one, three or five year period at the option of the applicant (§§25-7-506(2),25-7-507.5(2)(b), C.R.S.).

The Commission has considered the record and adopts the Division's proposals regarding the project manager discipline and project design requirements. The Commission believes the project manager duties are reasonable and appropriate, and determines at this time that imposing a college-level or higher education requirement would unnecessarily preclude otherwise qualified persons from performing these duties and that education at such a level was not required by the legislature (§§25-7-502(7.5), 25-7-503(1)(b)(V)). The Commission approves of the independence requirement for project managers from GACs, and the separate independence requirement for Inspectors from GACs as reasonable and required by statute (§25-7-503(1)(b)(V), C.R.S.).

The Commission adopts the additional training and updated work practices appendix for the removal of sheet vinyl containing asbestos based on the record. The Commission believes this is generally consistent with EPA's NESHAP and with §§25-7-501 and 25-7-503(1)(a), C.R.S. by reducing the risk of the release of asbestos fibers. Further, the Commission approves revisions to the definitions of asbestos-containing waste material facility, cutting, and grinding as consistent with EPA's NESHAP. The Commission approves the disclosure regarding certification of Workers conducting abatement in single-family residential dwellings as required by §25-7-504(3), C.R.S., to ensure that those doing the work are properly certified and therefore properly trained. The Commission also adopts revisions to procedures for use of glove bags on abatement projects as being reasonable and efficient, and providing practical assistance to those conducting abatements while protecting the public from exposure to asbestos.

Based upon documents submitted and considered pursuant to §25-7-110.5, C.R.S., the Commission makes the following findings: (1) the Commission has considered and has based its decision upon the reasonably available, validated, reviewed and sound scientific methodologies and information made available by interested parties; (2) where these revisions are not administrative in nature, the record supports that the revisions will result in a demonstrable reduction in asbestos fiber releases or prevent asbestos releases where they might otherwise occur; (3) the revisions selected are the most cost-effective based upon the documents submitted

pursuant to §25-7-110.5(4)., C.R.S., they provide the regulated community with flexibility, and achieve necessary reductions or prevention of the release of asbestos, and; (4) the revisions selected will maximize the air quality benefits of asbestos regulation in the most cost-effective manner.

VII.C. REVISIONS RESULTING FROM SB-01-121, THE DORA ASBESTOS CONTROL PROGRAM 2000 SUNSET REVIEW, AND THE REORGANIZATION OF REGULATION NO. 8, PART B (January 16, 2003)

This Statement of Basis, Specific Statutory Authority and Purpose comply with the requirements of the Colorado Administrative Procedure Act Sections 24-4-103(4) and (12.5), C.R.S. for new and revised regulations.

Basis

Regulation No. 8, Part B, sets forth the Air Quality Control Commission's asbestos control program. The statutory authority for this program is contained in the Colorado Air Pollution Prevention and Control Act ("Act"). In 2001, the legislature amended Part 5 of the Act dealing with asbestos control. These amendments, among other things, expanded the definition of Area of Public Access to include single-family residential dwellings, mandated certification for Air Monitoring Specialists and changed the definition of Friable Asbestos-Containing Material. As part of the legislative review of the Act, the Department of Regulatory Agencies ("DORA") examined potential problems with the Act and Regulation No. 8, Part B. Based on this review, DORA issued a report recommending a regulatory solution to perceived inequities in the Conflict of Interest provision set forth in Regulation No. 8, Part B, Section III.C.6.b.v. These revisions are needed to effect the statutory amendments and resolve the conflict of interest issue identified in the DORA report. In addition, the Regulation has been reorganized to make it more readable and easier to understand.

Specific Statutory Authority

The specific statutory authority for these revisions is set forth in various sections of the Colorado Air Pollution Prevention and Control Act. Section 25-7-105(1), C.R.S., gives the Air Quality Control Commission general authority to promulgate rules and regulations necessary for the proper implementation of the Act. Additionally, the various provisions set forth in Part 5 of the Act give the Commission specific authority to promulgate regulations governing asbestos abatement and control. The provisions set forth in Sections 25-7-502 and 25-7-503, C.R.S. authorize the regulatory revisions governing asbestos control in single-family residential dwellings, changes to the conflict of interest regulations and modification of the regulatory definition of friable asbestos-containing material. Additional authority regarding single-family residential dwellings is set forth in Section 25-7-504, C.R.S. The revisions governing the certification of Air Monitoring Specialists are specifically authorized pursuant to Section 25-7-506.5, C.R.S.

Purpose

The purposes of these revisions are as follows: 1) to effectuate the legislative changes to the state's asbestos control program adopted through the passage of Senate Bill 01-121; 2) to address inequalities that DORA noted with respect to the conflict of interest provisions; and 3) to reorganize the Regulation to make it more readable and easier to understand.

VII.C.1. Senate Bill 01-121

In enacting Senate Bill 01-121, the Legislature made the following changes to Colorado's asbestos control program: 1) revisions to expand statutory and regulatory requirements to single- family residential dwellings; 2) modification of the definition of friable asbestos-

containing material to clarify that this term includes materials measured by area or volume as well as by weight; and 3) adoption of a certification requirement for persons conducting Air Monitoring Specialist activities. To accomplish these legislative changes the Commission has adopted a number of revisions to Regulation No. 8, Part B.

VII.C.1.a. Single Family Residential Dwellings

Prior to the adoption of Senate Bill 01-121, single-family residential dwellings were not included within the definition of area of public access. Because the majority of requirements set forth in the Act and the Regulation apply only to areas of public access, this exclusion left homeowners without recourse to important regulatory protections in connection with either the abatement of asbestos or renovations impacting asbestos in their homes. To rectify this situation, the Legislature modified the statutory definition of area of public access to include single-family residential dwellings, but provided that such a dwelling would not be considered an area of public access at the request of the homeowner residing in that dwelling. The Commission has adopted essentially identical modifications to the regulatory definition. Modifications to the regulatory provisions governing permitting and use of certified personnel have also been made to provide that while single-family residential dwellings could constitute areas of public access, neither permits nor the use of certified abatement Workers was required for abatement projects in such dwellings where the abatement was performed by an individual utilizing the dwelling as his or her primary residence. These provisions are consistent with the statutory mandate set forth in Senate Bill 01-121. Finally, the revisions create a new minimum scope of applicability with regard to single-family residential dwellings. Consistent with the authority set forth in Senate Bill 01-121 the Commission has set applicability levels for abatement projects in single-family residential dwellings at 50 linear feet on pipes or 32 square feet on other surfaces. These levels are lower than the levels currently set for projects in public and commercial buildings. The lower levels have been adopted in view of the fact that residential projects are typically much smaller; nonetheless, they are likely to result in prolonged exposure to higher risk populations, such as small children, the elderly or the infirm, than projects in public or commercial buildings.

VII.C.1.b. Definition of Friable Asbestos-Containing Material

The previous definition of the term "friable asbestos-containing material" referenced material containing more than one percent asbestos by weight. Authorized laboratory analytical methods, however, have, in addition to weight, utilized measurements by area or volume. Consistent with these methods, and the change to the statutory definition, the new regulatory definition clarifies that friable asbestos-containing material includes material containing more than one percent asbestos by area or volume, as well as weight.

VII.C. 1.c. Certification of Air Monitoring Specialists

Air Monitoring Specialists perform air sampling during and at the end of asbestos abatement projects as well as conduct final visual inspections to ensure that visible dust or debris is not left at the conclusion of the project. These activities are crucial to protecting the general public from asbestos exposure resulting from abatement projects. Despite the important role that they play in protecting the public, Air Monitoring Specialists were not previously required to obtain a state certification. This omission undermined the Division's ability to ensure that Air Monitoring Specialists were properly qualified, and precluded the Division from revoking certifications of unqualified individuals. In recognition of this, Senate Bill

01-121 required certification of Air Monitoring Specialists in accordance with Commission regulations setting forth experience, education and training requirements.

These revisions adopt requirements necessary to effectuate the certification of Air Monitoring Specialists. The new requirements allow currently practicing Air Monitoring Specialists to obtain certification upon successful completion of an Air Monitoring Specialist refresher course and a Division administered exam. Individuals who are not qualified under the present regulation, must have a high school diploma and pass a Division approved exam, as well as complete an Air Monitoring Specialist course and on-the-job experience consisting of at least 80 hours of air monitoring under the supervision of an existing AMS and at least two final visual clearances and at least two final air clearances under the observation of an existing AMS. While an existing AMS must sign off on a trainee's completion of the on-the-job experience, such a sign off shall not subject the AMS to any enforcement action or liability based on the trainee's subsequent performance of AMS activities.

VII.C.2. DORA Recommendation

In connection with its review of Regulation No. 8, Part B, the Department of Regulatory Agencies recommended revisions to the provision governing potential conflicts of interest with respect to inspections for asbestos. The new regulation requires that inspection and abatement firms be independent of each other but removes the prohibition against payments from abatement contractors to Inspectors. This change puts abatement and inspection firms on equal footing with respect to contracting with building owners, while giving owners the flexibility to contract with a single firm and allow that firm to sub-contract the abatement or inspection work with another firm.

VII.C.3. Reorganization

The regulation has been reorganized to make it more readable and easier to understand. This reorganization has not substantively changed any requirements, but rather has put these requirements into a more accessible format.

Section I.A. of the Regulation governing materials incorporated by reference, has been expanded to include not only a statement that certain materials have been incorporated by reference, but also a list of those materials. This change makes the substantive provisions citing these materials easier to read and allows the reader to know up front what additional rules, beyond the regulation itself, apply to asbestos control in Colorado.

The definition section has been changed to include a list of relevant acronyms. This allows the reader to quickly identify what a given acronym stands for. Additionally, throughout the reorganized regulation, electronic links have been created so that individuals electronically reviewing a particular provision can immediately link to a given definition or acronym used in that provision.

Section II of the rule, governing certifications, has been substantially re-written to systematically explain the steps necessary to obtain certification in each of the certified disciplines. The current regulation organizes this information by the different types of requirements rather than by discipline. For example, testing requirements for all the disciplines are contained in one subsection, while training requirements are contained in another. The proposed reorganization organizes this material by discipline. As such, a person seeking to become certified as a Building Inspector can turn directly to the Building Inspector section, and not have to flip back and forth between several subsections. In addition, the current rule includes provisions governing when use of

certified personnel is required. Because these provisions substantively govern asbestos control, and do not address how certification is to be obtained, they have been moved to a new subsection in Section III governing abatement, renovation and demolition projects.

The substantive requirements in Section III have been reorganized to follow, as nearly as possible, the chronological steps that need to be taken in dealing with asbestos-containing materials in buildings. Given the complexity of the regulation, perfect sequencing was not possible, since certain requirements may be applicable at various stages, but generally the proposed revisions logically group related requirements together and in an order that should make sense to a layperson trying to determine how to properly proceed with respect to asbestos control. In addition, statements have been added to clarify when the various requirements are applicable.

Because certain specialized rules apply to asbestos in schools and state buildings, separate sections containing these rules have been maintained in the regulation. A new Section VI has been created governing standards associated with the manufacture and construction of asbestos materials. These requirements are currently placed in Section III governing project requirements. Because these rules are separate and distinct from the rules governing the removal and management of asbestos in buildings, the Division believes that they should be contained in a separate section. Finally, the section governing enforcement has been deleted from the proposed reorganization. This section unnecessarily duplicated the provisions of the Act, and its inclusion in the regulation was inconsistent with the other air regulations that rely on the Act for their enforcement mechanisms.

Findings Pursuant to §25-7-110.8, C.R.S.

These revisions are based on reasonably available, validated and reviewed, and sound scientific methodologies demonstrating that exposure to asbestos creates a public health hazard. Interested parties did not provide the Commission with any other validated, reviewed and scientifically sound methodologies or information.

Based on the evidence presented on the record, the requirements of this revised regulation will reduce public exposure to harmful asbestos fibers and therefore reduce the risks to human health and the environment thereby justifying the costs associated with this regulation.

The revisions represent the regulatory alternative presented to the Commission, which best balances cost-effectiveness, flexibility to the regulated community and maximization of air quality benefits.

VII.D. REVISIONS TO ADDRESS INCORRECT LANGUAGE IN THE SINGLE - FAMILY RESIDENTIAL DWELLING OPT-OUT PROVISION, ROOFING MATERIALS AND TYPOGRAPHICAL ERRORS (December 18, 2003)

This Statement of Basis, Specific Statutory Authority and Purpose comply with the requirements of the Colorado Administrative Procedure Act Sections 24-4-103(4) and (12.5), C.R.S. for new and revised regulations.

Basis

Regulation No. 8, Part B, sets forth the Air Quality Control Commission's asbestos control program. The statutory authority for this program is contained in the Colorado Air Pollution Prevention and Control Act ("Act"). The Legislative Legal Services contacted the Division to identify a concern with the single family residential dwelling opt-out provision. Specifically,

Legislative Legal Services indicated that the regulatory language governing single-family residential opt outs conflicted with the overriding statutory language. While the intent of the old provision was to be consistent with the statutory directive, the old regulatory language failed to capture that intent. These revisions are needed to address the concerns of Legislative Legal Services. We have also fixed several typographical errors.

Specific Statutory Authority

The specific statutory authority for these revisions is set forth in various sections of the Colorado Air Pollution Prevention and Control Act. Section 25-7-105(1), C.R.S., gives the Air Quality Control Commission general authority to promulgate rules and regulations, necessary for the proper implementation of the Act. Additionally, the various provisions set forth in Part 5 of the Act give the Commission specific authority to promulgate regulations governing asbestos abatement and control. The provisions set forth in Sections 25-7-502 and 25-7-503, C.R.S. authorize the regulatory revisions governing asbestos control in single-family residential dwellings, changes to the conflict of interest regulations and modification of the regulatory definition of friable asbestos-containing material. Additional authority regarding single-family residential dwellings is set forth in Section 25-7-504, C.R.S.

Purpose

These changes address issues identified by Legislative Legal Services with respect to the single-family residential dwelling opt-out provision and address typographical errors.

Findings Pursuant to §25-7-110.8, C.R.S.

These revisions are based on reasonably available, validated and reviewed, and sound scientific methodologies demonstrating that exposure to asbestos creates a public health hazard. Interested parties did not provide the Commission with any other validated, reviewed and scientifically sound methodologies or information.

Based on the evidence presented on the record, the requirements of this revised regulation will reduce public exposure to harmful asbestos fibers and therefore reduce the risks to human health and the environment thereby justifying the costs associated with this regulation.

The revisions represent the regulatory alternative presented to the Commission, which best balances cost-effectiveness, flexibility to the regulated community and maximization of air quality benefits.

VII.E. REVISIONS TO REGULATION NO. 8, PART B – ASBESTOS (December 16, 2004)

This Statement of Basis, Specific Statutory Authority and Purpose comply with the requirements of the Colorado Administrative Procedure Act Sections 24-4-103(4) and (12.5), C.R.S. for new and revised regulations.

Basis

Regulation No. 8, Part B, sets forth the Air Quality Control Commission's asbestos control program. The statutory authority for this program is contained in the Colorado Air Pollution Prevention and Control Act ("Act"). The Legislative Legal Services contacted the Division to identify a concern with the single family residential dwelling opt-out provision. Specifically, Legislative Legal Services indicated that the regulatory language governing single-family residential opt-outs exceeded statutory language. While the intent of the current provision was thought to be consistent with the statutory directive, Legislative Legal Services disagreed. Therefore, this revision is needed to address the concern of Legislative Legal Services.

Specific Statutory Authority

The specific statutory authority for these revisions is set forth in various sections of the Colorado Air Pollution Prevention and Control Act. Section 25-7-105(1), C.R.S., gives the Air Quality Control Commission general authority to promulgate rules and regulations necessary for the proper implementation of the Act. Additionally, the various provisions set forth in Part 5 of the Act give the Commission specific authority to promulgate regulations governing asbestos abatement and control. The provision set forth in Section 25-7-502, C.R.S. authorizes the regulatory revisions governing asbestos control in single-family residential dwelling. Additional authority regarding single-family residential dwellings is set forth in Section 25-7-504, C.R.S.

Purpose

This change addresses the issue identified by Legislative Legal Services with respect to the single-family residential dwelling opt-out provision.

VII.F. REVISIONS TO REGULATION NUMBER 8, PART B (June 21, 2007)

This Statement of Basis, Specific Statutory Authority and Purpose comply with the requirements of the Colorado Administrative Procedure Act Sections 24-4-103(4) and (12.5), C.R.S. for new and revised regulations.

Basis

Regulation No. 8, Part B, sets forth the Air Quality Control Commission's asbestos control program. The statutory authority for this program is contained in the Colorado Air Pollution Prevention and Control Act ("Act"). In 2006, the Legislature amended Part 5 of the Act dealing with asbestos control. These amendments, among other things: extended the sunset period to July 1, 2013; mandated exams for Air Monitoring Specialists; allowed the Division to establish certification renewal cycles, and the need to retest, administratively; changed an incorrect Code of Federal Regulations reference; and applied the regulation consistently across all building types. This included requiring an Air Monitoring Specialist to be independent of the General Abatement Contractor. It also included requiring a Project Manager on abatement projects of specified amounts of friable asbestos-containing materials in all building types. In addition, the Regulation has been changed to fix several administrative, typographical and referencing errors.

Specific Statutory Authority

The specific statutory authority for these revisions is set forth in various sections of the Colorado Air Pollution Prevention and Control Act. Section, 25-7-105(1), C.R.S., gives the Air Quality Control Commission general authority to promulgate rules and regulations necessary for the proper implementation of the Act. Additionally, the various provisions set forth in Part 5 of the Act give the Commission specific authority to promulgate regulations governing asbestos abatement and control. The provisions set forth in Sections 25-7-505.5, C.R.S. authorize the regulatory revision to allow proficiency testing of Air Monitoring Specialists. Section 25-7-503, C.R.S., authorizes changes to the regulation for consistency and revises an incorrect Code of Federal Regulations reference. Additionally, authority to allow the Division to change certification periods is set forth in Sections 25-7-506, 25-7-506.5 and 25-7-507.5, C.R.S.

Purpose

The purposes of these revisions are as follows: 1) to effectuate the legislative changes to the State's asbestos control program adopted through the passage of House Bill 06-1177, and 2) to fix several administrative, typographical and referencing errors.

A. House Bill 06-1177

In enacting House Bill 06-1177, the Legislature made the following changes to Colorado's asbestos control program: 1) addition of a examination requirement for persons conducting Air Monitoring Specialist activities; 2) corrected an incorrect Code of Federal Regulation reference; 3) required an Air Monitoring Specialist to be independent of the General Abatement Contractor; and 4) required a Project Manager on abatement projects (over a specified minimum amount of friable asbestos-containing materials) in all building types. To accomplish these legislative changes the Commission has adopted a number of revisions to Regulation No. 8, Part B.

1. Examinations for Air Monitoring Specialists

Air Monitoring Specialists perform air sampling during, and at the conclusion of, asbestos abatement projects. They also conduct final visual inspections to ensure that visible dust or debris is not left behind at the conclusion of the project. These activities are crucial to protecting the general public from asbestos exposure resulting from abatement projects. Several years ago, Legislative Legal Services determined that the Division did not have the specific statutory authority to administer tests to Air Monitoring Specialist applicants. This determination removed the Division's ability to ensure that Air Monitoring Specialists were properly trained and competent to perform their duties. In recognition of this, House Bill 06-1177 revised the statutory language to make it clearer that an examination was required in order for them to become certified.

2. Statutorily Established Certification Periods

Currently, it is a requirement that certified individuals take an annual refresher class and pass a state certification test for each discipline. Those who have renewed their certification for many years have often asked for relief from the annual testing requirement. It was recommended that the Division track pass/fail rates and other factors for a period of time to determine appropriate renewal cycles based on these rates.

3. Correct Code of Federal Regulations Provisions

In Section III.U.3.a. (Maximum Allowable Asbestos Level – Second Set by TEM) of the Regulation, a reference to a provision in the Code of Federal Regulations (CFR) is made that is no longer correct due to changes within that document. This provision must be changed in order to be consistent with the current CFR.

4. Consistency in Requirements of the Regulation

In connection with its review of Regulation No. 8, Part B, DORA recommended extending the provision governing potential conflicts of interest with respect to Air Monitoring Specialists and General Abatement Contractors. Additionally, the legislature adopted the use of Project Managers on qualifying abatement projects of friable asbestos containing material in all types of buildings. School buildings and single-family residential dwellings were not covered by this requirement. As abatement projects in these types of buildings may be just as complex as projects in public and commercial buildings, the legislature made the requirements apply to all buildings.

B. Corrections

A number of administrative, typographical and referencing errors were corrected. These corrections have not changed any requirements, but were necessary to correct errors that were present.

Findings Pursuant to § 25-7-110.8, C.R.S.

These revisions are based on reasonably available, validated and reviewed, and sound scientific methodologies demonstrating that exposure to asbestos creates a public health hazard.

Based on the evidence presented on the record, the requirements of this revised regulation will reduce public exposure to harmful asbestos fibers and therefore reduce the risks to human health and the environment thereby justifying any costs associated with this regulation.

The revisions represent the regulatory alternative presented to the Commission, which best balances cost-effectiveness, flexibility to the regulated community and maximization of air quality benefits.

VII.G. Revisions to Regulation Number 8, Part B (December 20 & 21, 2007)

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Colorado Administrative Procedure Act Sections 24-4-103(4), C.R.S. for new and revised regulations.

Basis

The Air Quality Control Commission has adopted revisions to Regulation No. 8, Part B, Sections I.B.13., I.B.14., I.B.15., (all other definition numbers will be updated to reflect these 3 additions), II.B.1., II.B.2., II.C.2., II.C.4., II.C.6., II.D.2., II.D.3.b.(iv)., II.E.1., II.E.1.a., II.G.1., II.G.2., II.L., II.M., II.N., III.E.1.b., III.E.1.c., III.E.1.d., III.F., III.G.1.b., III.G.1.c., III.G.3.c. and III.G.6., in order to raise current fees for certification of individuals and asbestos abatement firms and fees for asbestos abatement and demolition notices and permits. New fees are proposed for registration of asbestos training providers, asbestos consulting firms and asbestos laboratories. The fees will be adjusted commencing in 2008. The increases are necessary to cover current and rising program costs.

Specific Statutory Authority

The specific statutory authority for these revisions is set forth in Section 25-7-510 C.R.S., which allows the Commission to adjust fees so that the revenue generated is sufficient to cover direct and indirect costs to implement the Asbestos program.

Purpose

The revisions to Regulation No.8, Part B, Sections I.B.13., I.B.14., I.B.15., (all other definition numbers will be updated to reflect these 3 additions), II.B.1., II.B.2., II.C.2., II.C.4., II.C.6., II.D.2., II.D.3.b.(iv)., II.E.1., II.E.1.a., II.G.1., II.G.2., II.L., II.M., II.N., III.E.1.b., III.E.1.c., III.E.1.d., III.F., III.G.1.b., III.G.1.c., III.G.3.c. and III.G.6. will cover existing and anticipated shortfalls.

APPENDIX A

All <u>underlined text</u> in this regulation indicates defined terms; clicking on underlined text will take you to its definition in section I

This section is non-mandatory. It was designed to provide guidance to contractors in conducting <u>asbestos abatement</u> in a safe fashion.

A. SMALL SCALE PROJECTS

A.1. If <u>friable asbestos-containing materials</u>, in any amount less than or equal to the <u>trigger levels</u>, will be abated, all of subparagraph A.4. below should be followed.

A.2. Nothing in this Appendix A shall prevent an owner or operator from employing the work practices contained in section III (Abatement, Renovation and Demolition Projects) if it is more prudent or practical to do so.

A.3. For the purposes of this Appendix A, small scale, short-duration renovation and maintenance activities include but are not limited to:

A.3.a. removal of asbestos-containing insulation on pipes;

A.3.b. removal of small quantities of asbestos-containing insulation on beams; or above ceilings;

A.3.c. replacement of an asbestos-containing gasket on a valve;

A.3.d. installation or removal of a small section of drywall;

A.3.e. installation of electrical conduits through or proximate to asbestos-containing materials.

A.4. The following controls and work practices may be used to reduce asbestos exposures during small maintenance and renovation operations:

A.4.a. All movable objects should be removed from the work area to protect them from asbestos contamination. Objects that cannot be removed should be covered completely with six (6) mil polyethylene plastic sheeting before work begins. If contamination has already occurred, they should be thoroughly cleaned with a HEPA vacuum or wet wiped before they are removed from the work area, or completely encased in plastic.

A.4.b. Wet methods

Whenever feasible, wet methods, such as those described in subparagraph III.O.1.a.(i). (Wetting) should be used during small scale, short-duration maintenance and renovation projects.

A.4.c. Removal methods

A.4.c.(i). Use of glovebags should be in accordance with subparagraph III.V.1.(Glovebags).

A.4.c.(ii). If a facility component is to be removed from a structure in order that abatement is performed at an alternate location, the facility component should be completely wrapped in polyethylene and removed to an area where the stripping can be done safely.

A.4.d. Containment Barriers

A.4.d.(i). Containment Barriers may be constructed in accordance with subparagraph III.N. (Containment Components);

A.4.d.(ii). Mini containment barriers may be constructed in the following manner:

A.4.d.(ii).(A). Affix polyethylene sheeting to the walls with spray adhesive and tape;

A.4.d.(ii).(B). Cover the floor with polyethylene and seal it to the polyethylene covering the walls;

A.4.d.(ii).(C). Seal any penetrations such as pipes or electrical conduits with tape; and

A.4.d.(ii).(D). Construct a small change room (approximately 3 feet square) made of 6 mil polyethylene supported by 2 inch by 4 inch lumber (the polyethylene should be attached to the lumber supports with staples or spray adhesive and tape).

A.4.d(ii).(E). The change room should be contiguous to the work area and is necessary to allow the Worker to vacuum off his protective coveralls and remove them before leaving the work area.

A.4.d.(ii).(F). While inside the work area, the Worker should wear Tyvek® disposable coveralls, in accordance with subparagraph III.K.2.b.

A.4.d.(ii).(G). Either a HEPA vacuum or a negative air HEPA unit should be used to establish negative air within the enclosure, in accordance with subparagraph III.N. (Containment Components).

A.4.e. Clearance Air Monitoring

All requirements of subsection III.P. (Clearing Abatement Projects) are optional, except that if air monitoring is performed, and the area has public access, the maximum allowable asbestos level shall not be exceeded.

APPENDIX B

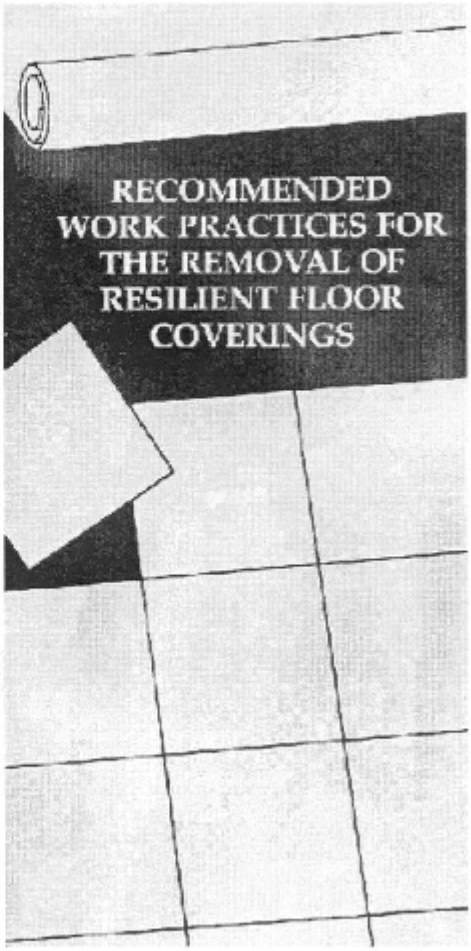
Brochure

"Recommended Work Practices for the Removal of Resilient Floor Coverings"

Appendix B-01

RFCI

RESILIENT FLOOR COVERING INSTITUTE



RECOMMENDED WORK PRACTICES FOR THE REMOVAL OF RESILIENT FLOOR COVERINGS

Appendix B-02

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt or asphaltic "cut-back" adhesives.

These products may contain either *asbestos fibers* or *crystalline silica*.

Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard.

Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.

Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

The RFCI's *Recommended Work Practices for Removal of Resilient Floor Coverings* are a defined set of instructions which should be followed if you must remove existing resilient floor covering structures.

NOTICE

Various federal, state and local government agencies have regulations covering the removal of asbestos-containing material. If you are considering the removal of resilient floor covering that contains, or is presumed to contain, asbestos you should review and comply with the appropriate regulations.

This publication replaces prior editions of these work practices. Future editions of these work practices may be issued to replace this publication.

Issued by
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RECOMMENDED WORK PRACTICES FOR THE REMOVAL OF RESILIENT FLOOR COVERINGS

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IMPORTANT INFORMATION FOR INSTALLERS OF RESILIENT FLOOR COVERINGS

Introduction

The member companies of the Resilient Floor Covering Institute are manufacturers of the following forms of Resilient Floor Coverings:

1. Sheet Vinyl
2. Vinyl Floor Tile

While today these products do not contain asbestos, it is possible that in the past some of these products, including asphalt tile, may have contained firmly encapsulated asbestos fibers. In the past decade much attention has been focused on the relationship between exposure to asbestos fibers and respiratory ailments. It has been determined that inhalation of free airborne asbestos fibers may be injurious to health. However, the asbestos fibers contained in the above types of resilient floor coverings are **not free** but firmly encapsulated or **locked in** the product during the manufacturing process.

The Resilient Floor Covering Institute is providing this booklet of recommended work practices for installing or removing resilient floors so that you may proceed with this work in a prudent and protected manner.

There are several general rules to follow:

1. Unless positively certain that the floor is a non-asbestos product, presume it contains asbestos and treat it in the manner prescribed in this pamphlet for a floor containing asbestos.
2. It is preferred to install a new floor over a floor which contains asbestos rather than to remove that floor. This can be done by several methods – directly over the existing floor; installing new underlayment; or use of leveling compound following installation procedures recommended by the floor covering manufacturer.
3. Removal should be considered the last alternative.
4. Never sand any resilient floor or it's backing to remove them from the floor (See Warning).
5. Use a vacuum equipped with a HEPA filter, disposable dust bag, and metal floor attachment (no brush).
6. All sheet removal must be done using detergent solution.
7. All tile removal must be done by wetting (misting) the tile prior to removal with a garden sprayer, except when heat s being used for removal.
8. All felt scraping must be done wet.
9. Do not dry sweep.
10. Material removed must be placed in heavy-duty polyethylene bags at least 6 mils thick or in a closed leak-tight container, properly labeled and disposed of in an authorized landfill.

OSHA Requirements

In August 1994, OSHA published standards which affect some of the operations described in this booklet. OSHA has determine that "intact" resilient floor covering materials can be removed under a "negative exposure assessment" in compliance with the revised standards by appropriately trained Workers using the Recommended Work Practices.

- **"Intact"** is defined to mean that the asbestos-containing material has not crumbled, been pulverized or otherwise deteriorated so that it is no longer likely to be bound to its matrix. The incidental breakage of flooring materials, or slicing of sheet vinyl floor covering with a sharp edged instrument, during removal operations conducted in accordance with the Recommended Work Practices does not mean that the materials are not removed in an "intact" condition. OSHA has recognized that resilient floor covering materials are considered non-friable if intact and generally do not emit airborne fibers unless subjected to sanding, sawing, or other aggressive operations.
- Installers of resilient floor covering materials that plan to use the Recommended Work Practices outlined in this book to remove intact and nonfriable

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asbestos-containing flooring materials are required to complete an 8-hour **training program**.

- Employers must designate a "**competent person**" with 4 hours of additional training to be responsible for the health and safety of the Workers at the floor removal job site.
- OSHA has determined that the competent person can make a "**negative exposure assessment,**" based upon data in the OSHA asbestos rulemaking record (including data from the ENVIRON reports) showing that the use of the Recommended Work Practices during removal of intact flooring material consistently results in Worker exposures below the levels permitted in the OSHA standards.
- Where other Workers or persons may have access to the flooring removal worksite, the employer must establish a demarcated "**regulated area**" and post warning signs.
- Workers who engage in the removal of asbestos-containing flooring materials for more than 30 days per year (one hour or more per day) must receive **medical surveillance**.

RECOMMENDED WORK PRACTICES

PREPARATION OF FLOORS WITH EXISTING RESILIENT FLOOR COVERINGS TO RECEIVE NEW RESILIENT FLOOR COVERINGS

Follow the installation instruction published by the manufacturer of the new floor covering when a new resilient sheet or tile floor covering is to be installed on a surface presently covered with a resilient floor covering. These instructions will tell you what must be done to the existing surface before the new resilient floor covering can be installed.

On the four general procedures listed below, Items 1a, b, and c are covered by manufactures' instructions. Item 2 is covered specifically in this Work Practices Manual.

1. **Resilient Floor Covering Installed Over…**
   (a) **The Existing Surface.** Follow the manufacturer's instruction for removing wax, filling in low spots, etc. **Use wet scrubbing. Never sand an existing resilient floor covering.**
   (b) **New Underlayment.** Install panels on top of the existing surface (wood subfloors only) and apply new floor coverings directly over this. Follow the manufacturer's instructions.
   (c) **Leveling Compounds.** Follow the manufacturer's instructions.
2. **Completely Removed Existing Resilient Floor Covering**
   (a) **Sheet Vinyl** – See instructions below:
      (1) "Complete Removal of Peripherally Adhered Sheet Vinyl Floor Coverings," page 8.
      (2) "Complete Removal of Fully Adhered Sheet Vinyl Floor Covering," page 13.
   (b) **Tile** – See instructions under heading, "Complete Removal of an Existing Resilient Tile Floor Covering," page 23.

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SHEET VINYL FLOOR COVERING

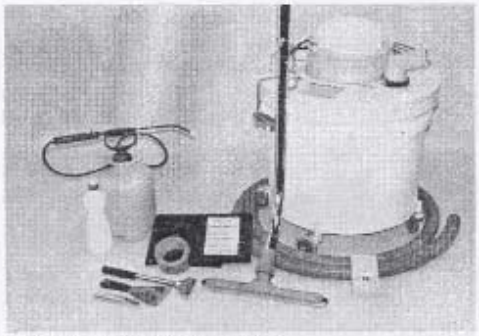
Preparation of Floors with Existing Sheet Vinyl Floor Covering to Receive a New Resilient Floor Covering

Sheet vinyl floor covering can be installed over existing resilient sheet vinyl floor covering under certain conditions. Be sure to follow the floor covering manufacturer's instructions regarding the conditions and floor preparations required.

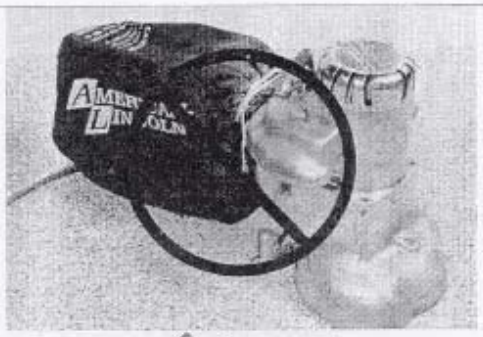
If complete removal of the existing sheet vinyl floor covering is required, the following instructions are to be followed:

Supplies and Tools

1. Broad stiff-bladed wall scraper or floor scraper.
2. Utility or hook knife.
3. Tank type wet/dry HEPA (High Efficiency Particulate Air) filter vacuum cleaner with disposal dust bag and metal floor attachment (no brush).
4. Large size heavy-duty impermeable trash bags (at least 6 mils thick) or closed leak-tight containers, with ties, tapes, or string to tie shut and tags for labeling.
5. Garden sprayer.
6. A liquid dishwashing detergent which is stated to contain anionic, nonionic, and amphoteric surfactants. The detergent should be mixed with water to



Tools and supplies for sheet removal



WARNING

Never sand an existing floor covering and never sand or dry scrape residual felt.

make a dilute solution (1 oz. of detergent in one gallon of water).*

7. Pressure sensitive labels.
8. Ground fault circuit interrupter for connection of HEPA vacuum and any other electrical equipment.

***PRECAUTION**: Resilient flooring becomes slippery when wet with a detergent solution. Use caution to contain the solution in the immediate work area. Standing on a *new sheet of plywood* or non-slip surface while working is recommended.

WARNING

Wash hands before eating and at the end of the work day.

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COMPLETE REMOVAL OF PERIPHERALLY ADHERED SHEET VINYL FLOOR COVERING

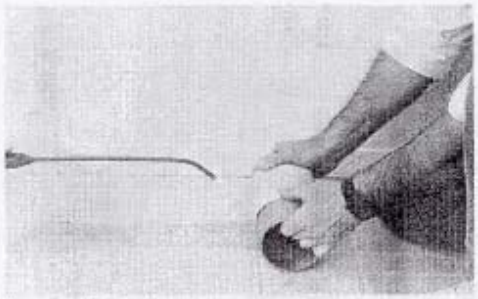
A. Preparation
   1. Move all appliances and furniture from the work area.
   2. Remove all binding strips or other restrictive molding from doorways, walls, etc.
   3. Mix a detergent solution (16 ounces of the specified liquid detergent [see Page 6, #6] to 1 gallon of warm water) and pour into a garden sprayer.
   4. Clean the entire floor using a wet/dry vacuum cleaner equipped with a HEPA Filtration System and metal floor attachment (no brush). Do Not Sweep.

WARNING

ELECTRICAL SHOCK HAZARD EXISTS; USE A GROUND FAULT CIRCUIT INTERRUPTER FOR ANY ELECTRICAL CONNECTIONS IN A WET ENVIRONMENT.

B. Make a slice in the adhered floor covering 4 to 8 inches wide, parallel with the walls, around the perimeter of the room.

C. Start on either side of the entrance door, pry up the corner of the first strip, separating the backing layer. As the strip is being removed, a constant mist of the detergent solution must be sprayed into the delamination nip point to minimize any airborne dust particles.* When done properly. Any felt remaining on the floor and on the back of the strip



Spraying delamination nip.

will be thoroughly wet. The strip is peeled by pulling upward at the angle that permits the best separation or by rolling around a core.

D. Roll the strip tightly as it is removed. Tie or tape securely and place in a heavy-duty leak-tight trash bag or closed impermeable container for disposal.

E. It may be necessary to remove a second strip following steps (B, C, D) if the unadhered subfloor area has not been exposed.

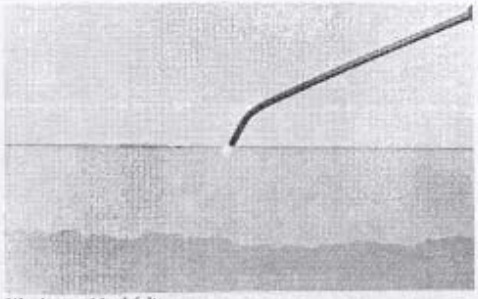
***PRECAUTION**: Resilient flooring becomes slippery when wet with detergent solution. Use caution to contain the solution in the immediate work area. Standing on a *new sheet of plywood* or non-slip surface while working is recommended.

F. Remove all of the exposed residual felt by wet scraping before proceeding.

RESIDUAL FELT MUST BE REMOVED BY WET SCRAPING; DO NOT SAND OR DRY SCRAPE IN ANY WAY; DO NOT DRY SWEEP; AVOID CREATING DUST. SEE WARNING STATEMENT.

Wet Scraping Residual Felt

1. Thoroughly wet the residual felt with the detergent solution and allow a few minutes to soak.
2. Stand on the remaining floor covering (not the felt) and use the stiff-bladed scraper or a floor scraper with a replacement blade to remove the wet felt.



Wetting residual felt

Appendix B-07

WARNING

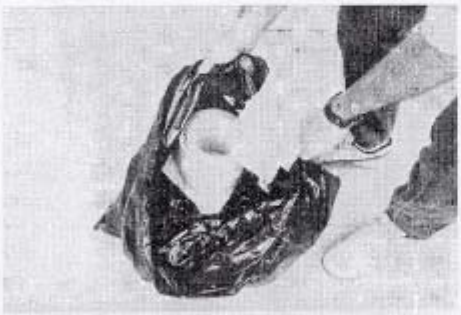
Never sand or dry scrape residual felt. See Warning Statement.

3. Re-wet the felt if the solution has not completely penetrated, if drying occurs or if dry felt is exposed during scraping. Scrape **all** felt from this floor area before proceeding further. Pick up the scrapings as they are removed from the floor and place in a heavy-duty impermeable trash bag or closed leak-tight container.

PRECAUTION: Wet residual felt as above but do not excessively soak or flood wood floors with detergent solution. Excessive water can damage wood floors to the extent that new underlayment could be required. A floor that has been wet scraped must be allowed to dry thoroughly before new resilient flooring is installed.

G. Continue around the room completely removing the adhered flooring along the perimeter, one strip at a time following steps B through F. Do not remove the flooring in the entrance doorway until all other flooring has been completely removed.

H. Place all flooring strips and felt scrapings immediately while wet into the recommended trash bags. Close full bags tightly and seal securely for disposal. Identify with a label stating, "Caution–Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only.*



Placing felt scrapings and flooring strips in bag.

I. Vacuum up any residue of wet felt scrapings immediately with a wet/dry vacuum equipped with a HEPA filter and metal floor attachment (no brush).

J. Remove the unadhered flooring as detailed in the following steps.

K. After vacuuming, used HEPA filters and cleaner bags should be removed according to the manufacturer's instructions and placed in a heavy-duty impermeable bag or leak-tight container with a label stating "Caution–Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only.

***NOTICE**

Various federal, state and local government agencies have regulations covering the removal of asbestos-containing material. If you are considering the removal of resilient floor covering that contains, or is presumed to contain, asbestos you should review and comply with the appropriate regulations. The RFCI recommended work practices are designed to comply with the federal occupational asbestos permissible exposure limits.

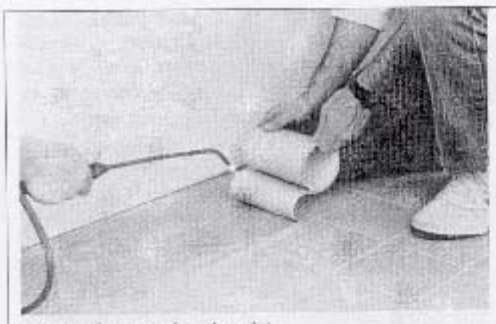
COMPLETE REMOVAL OF SHEET VINYL FLOORING IN UNADHERED AREAS AND FLOORING INSTALLED LOOSE LAID (WITHOUT ADHESIVE)

A. Preparation
   - Move all appliances and furniture from the work area.
   - Remove all binding strips or other restrictive molding from doorways, walls, etc.
   - Prepare a detergent solution (16 ounces of the specified liquid detergent [see Page 6, #6] to 1 gallon of warm water) and pour into a garden sprayer.
   - Clean the entire floor using a wet/dry vacuum cleaner equipped with a HEPA Filtration System and metal floor attachment (no brush). Do Not Sweep.

B. Start at the end of the room farthest from the entrance doorway and slice a strip 18 inches wide in the unadhered flooring.

C. Remove the sliced strips while spraying the detergent solution directly into the separation nip point.

Appendix B-08



Spraying the separation nip point.

Do not stand or kneel on the exposed subfloor during the removal process.*

*PRECAUTION: Resilient flooring becomes slippery when with a detergent solution. Use caution to contain the solution in the immediate work area. Standing on a *new sheet of plywood* or non-slip surface while working is recommended.

D. Roll the wet strip tightly and tie or tape to secure. Continue working toward the doorway, slicing each strip and removing it while spraying the separation nip point with the detergent solution. Place the strips while still wet into a heavy-duty impermeable trash bag or closed leak-tight container. Close full bags tightly and seal securely for disposal. Identify with a label stating, "Caution–Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only. (See NOTICE page 11).

E. After removing three strips of flooring, vacuum the exposed floor using a wet/dry vacuum equipped with a HEPA filter and metal floor attachment (no brush).

F. Seams and other adhered areas should be removed as they are encountered by stripping the wear surface while spraying the detergent solution into the delamination nip point and wet scraping the residual felt as previously described in complete removal of peripherally adhered flooring.

G. Continue removing flooring doing only **one** three-strip area at a time until the entire floor has been completely removed.

Vacuuming exposed floor after removing three strips of flooring.

H. When the whole floor has been completely removed, let it dry and vacuum up any dust using a vacuum with a HEPA Filtration System and a metal floor attachment (no brush). Stand only in vacuumed areas as you proceed across the floor. Position the vacuum cleaner so that discharge air does not blow on the floor being cleaned.

WARNING

Do not dry sweep; avoid creating dust. SEE WARNING STATEMENT.

I. After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed into a heavy-duty impermeable trash bag or closed leak-tight container. Close full bags tightly and seal securely for disposal. Identify with a label stating, "Caution–Contains Asbestos. Avoid opening or braking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only.

J. When the floor is dry, install the new resilient floor covering following manufacturer's installation recommendations.

COMPLETE REMOVAL OF AN EXISTING ADHERED SHEET VINYL FLOOR COVERING

If complete removal is required, follow these instructions:

WARNING

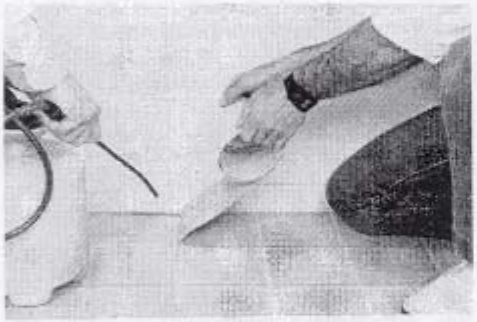
Never Sand an Existing Floor Covering

Appendix B-09

A. Preparation
   1. Move all appliances and furniture from the work area.
   2. Remove all binding strips or other restrictive molding from doorways, walls, etc.
   3. Prepare a detergent solution (16 ounces of the specified detergent [See page 6] to 1 gallon of warm water) and pour into a garden sprayer.
   4. Clean the entire floor with a wet/dry vacuum equipped with a HEPA Filtration System and metal floor attachment (no brush). Do Not Sweep.

B. Make a series of parallel slices 4 to 8 inches apart, parallel to a wall.

C. Start at the end of the room farthest from the entrance door; pry up the corner of the first strip, separating the backing layer. As the strip is being removed, a constant mist of the detergent solution must be sprayed into the delamination nip point to minimize any airborne dust particles. When done properly, the felt remaining on the floor and on the back of the strip will be thoroughly wet. The strip is peeled by pulling upward at an angle that permits the best separation or by rolling around a core.



Spraying delamination nip.

WARNING

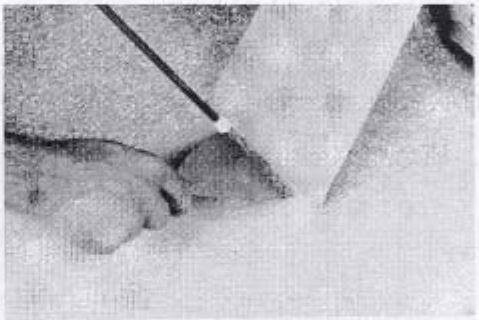
ELECTRICAL SHOCK HAZARD EXISTS. USE A GROUND FAULT CIRCUIT INTERRUPTER FOR ANY ELECTRICAL CONNECTIONS IN A WET ENVIRONMENT.

D. Roll the strip tightly as it is removed. Tie or tape securely and place in a heavy duty leak-tight trash bag or closed impermeable container for disposal.

E. Occasionally, parts of the foam inner-layer will remain stuck to the backing. This condition can sometimes be eliminated by pulling the strips loose from the opposite end. Peel the foam inner-layer from the floor while spraying the detergent solution into the delamination nip point.

Some resilient flooring is not readily strippable by hand. When those conditions are encountered, it may be necessary to employ a sharp, stiff blade scraper to assist cleavage of the wearlayer from felt (distance between cuts in wearlayer should be narrower, 3" to 5" wide).

NOTE: *Regardless of which one of the previously mentioned methods is used for stripping the wear surface, the detergent solution must be sprayed into the delamination nip point to minimize any airborne dust particles.*



Using stiff blade scraper to assist wet removal

F. Repeat the wetting and removal process on the next two strips, placing them immediately into the recommended trash bags or closed leak-fight containers for disposal.

NOTE: During the stripping process, do not stand or walk on the exposed felt.

G. After removing three strips of the wear surface, the remaining residual felt must be removed by wet scraping before proceeding.

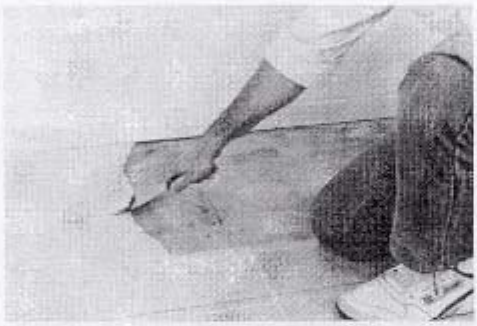
Appendix B-10

WARNING

RESIDUAL FELT MUST DE REMOVED BY WET SCRAPING; DO NOT SAND OR DRY SCRAPE IN ANY WAY; DO NOT DRY SWEEP; AVOID CREATING DUST. SEE WARNING STATEMENT.

H. Wet Scraping Residual Felt

1. Thoroughly wet the residual felt with the detergent solution. Avoid excessive wetting or standing water. Wait a few minutes to allow the solution to soak into the felt.
2. Stand on the remaining floor covering (not the felt) and use the stiff-bladed scraper or a floor scraper with a replaceable blade to remove the wet felt.



Scrape from remaining floor covering.

WARNING

Never sand or dry scrape residual felt. See Warning Statement.

3. Re-wet the felt if the solution has not completely penetrated, if drying occurs or if dry felt is exposed during scraping. Scrape **all** felt from this floor area before proceeding further. Pick up the scrapings as they are removed from the floor and place in a heavy-duty impermeable trash bag or closed leak-tight container.
   PRECAUTION: Wet residual felt as above but do not excessively soak or flood wood floors with detergent solution. Excessive water can damage wood floors to the extent that new underlayment could be required. A floor that has been wet scraped must be allowed to dry thoroughly before new resilient flooring is installed.
4. After removing the three strips of flooring, vacuum the exposed floor using a wet/dry vacuum equipped with a HEPA filter and metal floor attachment (no brush).

I. Repeat the operation (wetting the delamination nip point while removing the next three strips, then wet scrape the residual felt, then vacuum the exposed floor). Do only **one** three-strip area at a time until the entire floor has been completely removed.

WARNING

ELECTRICAL SHOCK HAZARD EXISTS, USE A GROUND FAULT CIRCUIT INTERRUPTER FOR ANY ELECTRICAL CONNECTIONS IN A WET ENVIRONMENT.

J. Place all flooring strips and felt scrapings immediately while wet into the recommended trash bags or closed leak-tight container. Close full bags tightly and seal securely for disposal.

Identify with a label stating. "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose in an approved landfill only. (See NOTICE page 11.)

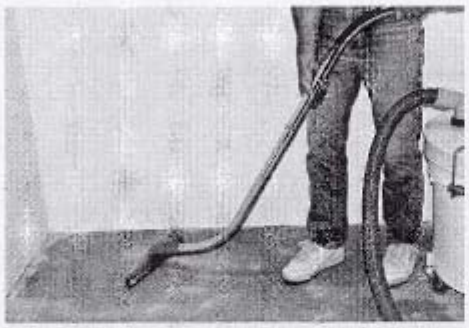
Proper disposal.

Appendix B-11

WARNING

DO NOT DRY SWEEP; AVOID CREATING DUST. SEE WARNING STATEMENT.

K. When the whole floor has been completely removed, let it dry and vacuum up any dirt using a vacuum with a HEPA Filtration System and a metal floor attachment (no brush). Stand only in vacuumed area as you proceed across the floor. Position the vacuum cleaner so the discharged air does not blow on the floor being cleaned.



Vacuuming entire floor.

L. Carefully remove the dust bag and place it in a heavy-duty impermeable trash bag or closed leak-tight container for disposal, which is labeled as above.

M. When the floor is dry, it is ready to have a new resilient floor covering installed. Follow the floor covering manufacturer's instructions.

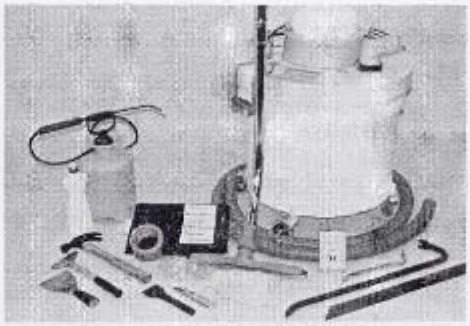
COMPETE REMOVAL OF THIN WOOD UNDERLAYMENT COVERED WITH EXISTING SHEET VINYL RESILIENT FLOORING

The removal of resilient flooring over wood subfloors using the wet stripping/wet scruping method may not be practical in cases where multiple layers of floor covering are present, where non-recommended underlayments were used, or where the flooring was made with a heavy foam backing. As an alternative, the

wood underlayment can be removed with the flooring adhered to it. Following are the details.

A. Preparation

- Move all appliances and furniture from the work area.
- Remove all binding strips or other restrictive molding from doorways, walls, etc.
- Prepare a detergent solution (16 ounces of the specified liquid detergent [See page 6] to 1 gallon of warm water) and pour into a garden sprayer.



Tools needed.

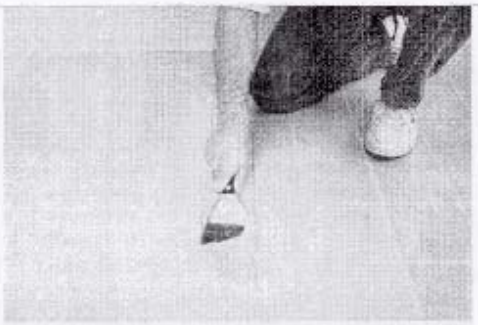
- Clean the entire floor with a wet/dry vacuum equipped with a HEPA Filtration System and metal floor attachment (no brush).

B. Locate the joints of the underlayment panel farthest from the entrance door.

C. Slice a strip of the flooring 4 to 8 inches wide centered over the underlayment joint in the panel being removed.

D. Pry up the corner of the strip separating the backing layer. As the strip is being removed, a constant mist of the detergent solution must be sprayed into the delamination nip point to minimize any airborne dust particles.* When done properly, any felt remaining on the floor and on the back of the strip will be thoroughly wet. The strip is peeled by pulling upward at an angle that permits the best separation or by rolling around a core.

Appendix B-12



Wet removal of strip over underlayment joint.

***PRECAUTION**: Resilient flooring becomes slippery when wetted with a detergent solution. Use caution to contain the solution in the immediate work area. Standing on a *new sheet of plywood* or non-slip surface while working is recommended.

E. Roll the strip tightly as it is removed. Tie or tape securely and place in a heavy-duty impermeable trash bag or closed impermeable container for disposal, which is labeled "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only.

WARNING

RESIDUAL FELT MUST BE REMOVED BY WET SCRAPING; DO NOT SAND OR DRY SCRAPE IN ANY WAY; DO NOT DRY SWEEP; AVOID CREATING DUST. SEE WARNING STATEMENT.

F. Remove all of the exposed residual felt by wet scraping before proceeding.

Wet Scraping Residual Felt

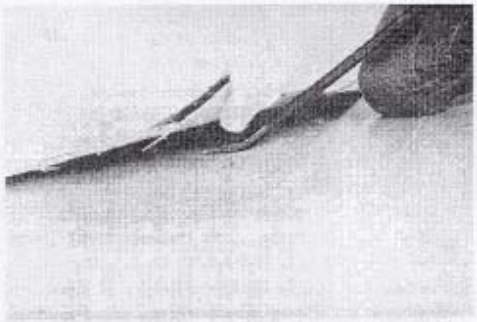
1. Thoroughly wet the residual felt with the detergent solution and allow a few minutes to soak.
2. Stand on the remaining floor covering (not the felt) and use the stiff-bladed scraper or a floor scraper with a replaceable blade to remove the wet felt.

WARNING

Never sand or dry scrape residual felt. See Warning Statement.

3. Re-wet the felt if the solution has not completely penetrated, if drying occurs or if dry felt is exposed during scraping. Scrape all felt from this floor area before proceeding further. Pick up the scrapings as they are removed from the floor and place in a heavy-duty impermeable trash bag or closed impermeable container.
4. Continue around the underlayment panel completely removing the adhered flooring over the joints.
5. Place all flooring strips and felt scrapings immediately while wet into the recommended trash bags or closed leak-tight containers. Close full bags tightly and seal securely for disposal. Identify with a label stating, "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose in an approved landfill only. (See NOTICE page 11.)
6. Vacuum the exposed floor area using a wet/dry vacuum equipped with a HEPA filter and metal floor attachment (no brush).

G. Drive a cold chisel using a hammer or mallet into the joint at a corner of the panel. Now use the chisel to pry the panel up far enough to insert a pry bar. Continue working around the panel, lifting all edges slowly. Use one or two pry bars to pry up the underlayment panel a little at a time until the panel



Prying up underlayment panel.

Appendix B-13

is completely loose and can be removed. Every attempt should be made to remove the panel in one piece.

H. If the underlayment panel breaks, cut the resilient flooring at the break and spray the detergent solution onto the exposed felt. Allow the solution to penetrate for a few minutes, then continue lifting the broken underlayment.

WARNING

ELECTRICAL SHOCK HAZARD EXISTS. USE A GROUND FAULT CIRCUIT INTERRUPTER FOR ANY ELECTRICAL CONNECTIONS IN A WET ENVIRONMENT.

I. Remove each underlayment panel or piece from the work area as it is lifted to avoid injury. Wear heavy gloves when handling removed panels. Be very careful of wood splinters and protruding fasteners. Flatten the fasteners with a hammer and stack the panels back to back on pallets or place in dumpster. Identify panels with a label stating, "Caution—Contains Asbestos. Avoid breaking panels. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only. Place any small wood or flooring scraps in a heavy-duty impermeable trash bag or closed leak-tight container for disposal. Identify all of the containers and bags with a label stating, "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose of in an approved landfill only.

J. If the underlayment extends under cabinets or wall partitions, it will be necessary to slice through the flooring with a knife as close to the vertical surfaces as possible, deeply scoring the panel. This should allow removal.

K. After each panel has been lifted and removed from the work area, pull up any remaining nails or fasteners in the subfloor.

L. Continue removing each underlayment panel following steps G though K.

M. When the underlayment/resilient flooring removal is completed, vacuum with a HEPA filter and metal floor attachment (no brush). Prepare the subfloor following the manufacturer's installation recommendations.

RESILIENT TILE FLOOR COVERING

Preparation of Floors with Existing Resilient Tiles to Receive New Resilient Floor Covering

Some resilient floor coverings can be installed over existing resilient tile installations. Follow the installation instructions published by the manufacturer of the new floor covering when a new resilient floor covering is to be installed on a surface presently covered with a resilient floor covering.

These instructions will tell you what must be done to the existing surface before the new resilient floor covering can be installed.

WARNING

Never Sand an Existing Tile Installation

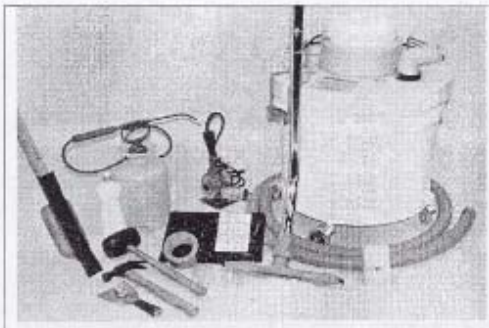
COMPETE REMOVAL OF EXISTING RESILIENT FLOOR COVERING

Supplies and Tools

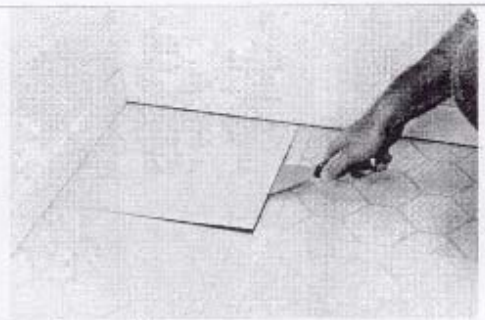
1. Sharp stiff blade floor scraper.
2. Weighted scraper with long handle.
3. Safety glasses.
4. Hammer.
5. Hot air gun or a radiant heat source.
6. Wet/dry vacuum with a HEPA Filtration System and metal floor attachment (no brush).
7. Heavy-duty, impermeable, plastic trash bags with minimum 6 mil wall thickness or leak-tight containers.
8. Garden sprayer.
9. A liquid dishwashing detergent which is stated to contain anionic, nonionic, and amphoteric surfactants. The detergent should be mixed with water to make a dilute solution (1 oz. of detergent to one gallon of water).
10. Pressure-sensitive labels 3" x 5" or larger.
11. Ground fault circuit interrupter for connection of HEPA vacuum and any other electrical equipment.

Whenever possible, existing tile floors should be left in place and the new floor adhered directly to the tile following manufacturer's directions.

Appendix B-14



Tools needed.



Start tile removal in corner

Occasionally, there is no alternative except to remove the tile; curling, poor bond and breakage are common reasons. If removal is unavoidable, consideration must also be given to subfloors coated with asphalt tile adhesive. The following procedures address the recommended work practice for removal of floor tile and preparation of adhesive-coated floors.

Removal Procedure

A. Preparation
   1. Move all appliances and furniture from the work area.
   2. Remove all binding strips or other restrictive molding from the doorways, walls, etc.
   3. The entire floor should be cleaned with a wet/dry vacuum equipped with a HEPA Filtration System and a metal floor attachment (no brush). Do Not Sweep.
   4. Floor tiles must be wetted (misted with a garden sprayer) before actual removal begins, unless heat will be used to remove tiles.

B. Those areas normally exposed to heavy foot traffic patterns usually have tiles adhered the tightest. As a matter of good practice in starting the tile removal, those sections which receive the least traffic should be the locations selected for starting the removal of the tile. It should be the goal to remove individual tiles as a complete unit although breakage of tiles is unavoidable.

C. Start the removal by carefully wedging the wall scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and

away from the floor. Continue to force the balance of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action on the blade to promote release of the tile from the adhesive and the floor.

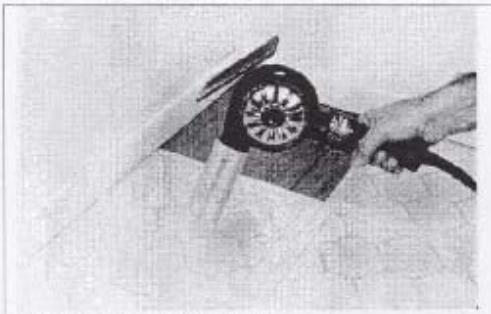
D. When the first tile is removed, place it, without breaking it further into smaller pieces, in a heavy-duty impermeable trash bag or closed leak-tight container which will be used for disposal.

E. With the removal of the first tile accessibility of the other tile is improved. Force the wall scraper under the exposed edge of another tile and continue to exert a prying twisting force to the scraper as it is moved under the tile until the tile releases from the floor. Again, dispose of the tile, and succeeding tiles, by placing in the heavy-duty bag or closed leak-tight container without additional breaking.

F. Some tiles will release quite easily while others require varying degrees of force. Where the adhesive is spread heavily or is quite hard, it may prove easier to force the scraper though the tightly adhered areas by striking the scraper handle with a hammer using blows of moderate force while maintaining the scraper at a 25° to 30° angle to the floor.
   Continue to wet (mist) the tiles with a garden sprayer.
   Caution: Use safety goggles.

G. If some areas are encountered where even the technique detailed in the previous paragraph proves to be inadequate, the removal procedure can be simplified by thoroughly heating the tile(s) with a hot air blower or a radiant heat source until the heat penetrates through the tile and softens the adhesive.

Appendix B-15



Use hot air blower to assist removal.

NOTE: Handle the hot air blower or a radiant heat source, tiles and adhesive carefully to avoid personal burns.

NOTE: Do not handle the heated tiles and adhesive without suitable glove protection for the hands.

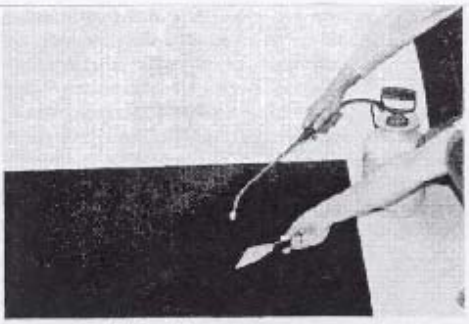
H. As small areas of subfloor are cleared of tile, the adhesive remaining on the floor must be treated. The degree of treatment for residual cut-back adhesive is dependent upon the type of new resilient floor covering material to be installed and the type of subfloor. See page 31 **Preparation of Adhesive Coated Subfloor** for special recommendations.

If new resilient floor tile is to be installed over a concrete subfloor using an asphaltic adhesive, the residual asphaltic "cut-back" adhesive must be left so that no ridges or puddles are evident and what remains is a thin, smooth film.

Wet Scraping Residual Adhesive

(1) Start in the corner of the room farthest from the entrance door and moisten an area approximately 3' x 10' with water mixed with the specified liquid dishwashing detergent (1 oz. specified liquid dishwashing detergent to one gallon of water) to aid in wetting the adhesive. Wet scrape with a stiff-bladed wall or floor scraper removing ridges and any loose adhesive.

(1) Place loosened adhesive residues into a heavy-duty impermeable trash bag or other leak-tight container and seal with ties, tape or string and label "Caution—Contains Asbestos. Avoid opening or breaking container. Breathing asbestos is hazardous to your health." Dispose in an approved landfill



Wet scraping adhesive ridges.

only.

(3) Wet vacuum standing water with HEPA wet/dry vacuum.

(4) Continue steps (1) through (3) until what remains of the residual asphaltic "cut-back" adhesive is a thin, smooth film.

I. As indicated in previous paragraphs, tiles should be placed immediately in a heavy-duty impermeable trash bag or closed leak-tight container. Do not attempt to break tiles further after they are in the bag.

J. When all tiles and adhesive residue have been removed from the floor and placed in heavy-duty polyethylene bags at least 6 mils thick or closed containers, seal the bags securely for disposal and label, "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause serious bodily harm." Dispose in an approved landfill only.

K. Vacuum up any dirt in the area using a vacuum equipped with a HEPA filter and metal floor attachment (no brush).

L. After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed in a heavy-duty impermeable trash bag or a leak-tight container with a label stating "Caution—Contains Asbestos. Avoid opening or breaking container. Breathing asbestos is hazardous to your health." Dispose in an approved landfill only. Close and seal the trash bags securely for disposal.

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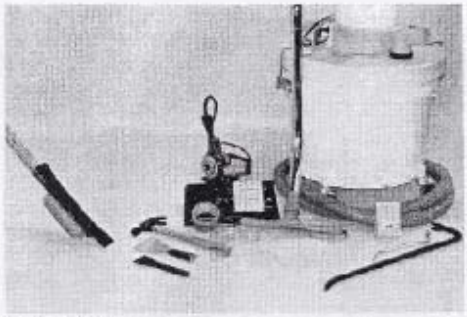
COMPLETE REMOVAL OF THIN WOOD UNDERLAYMENT COVERED WITH EXISTING TILE

Supplies and Tools

1. Chisel.
2. Hammer or mallet.
3. Short- and long-handled pry bars.
4. Heavy gloves.
5. Sharp stiff-blade floor scraper.
6. Weighted scraper with long handle.
7. Safety goggles.
8. Garden Sprayer.
9. Hammer.
10. Hot air gun.
11. Wet/dry vacuum with a HEPA Filtration System and metal floor attachment (no brush).
12. Heavy-duty, impermeable, plastic trash bags with minimum 6 mil wall thickness.
13. Pressure-sensitive labels 3" x 5" or larger.
14. Ground fault circuit interrupter for connection of HEPA vacuum and any other electrical equipment.



Tools and supplies.

Removal Procedure

A. Preparation
   1. Move all appliances and furniture from the work area.
   2. Remove any binding strips or other restrictive molding from doorways, walls, etc.
   3. The entire floor should be cleaned with a wet/dry vacuum equipped with a HEPA Filtration System and a metal floor attachment (no brush). Do Not Sweep.
   4. Floor tiles must be wetted (misted with a garden sprayer) before actual removal begins, unless heat will be used to remove tiles.

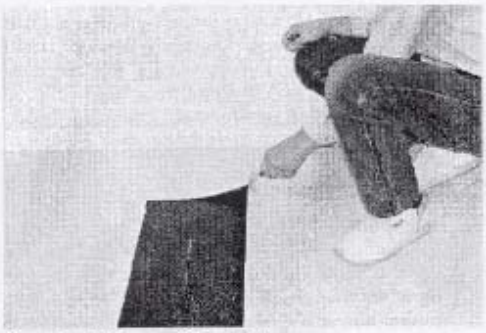
B. Starting at the doorway or a floor ventilation vent, locate a joint in an underlayment board.

C. Start the removal by carefully wedging the wall scraper in the seam of two adjoining tiles and gradually forcing the edge of one of the tiles up and away from the floor. Continue to force the balance of the tile up by working the scraper beneath the tile and exerting both a forward pressure and a twisting action on the blade to promote release of the tile from the adhesive and the floor. Continue to remove tile in this manner at all joints, until all board joints are exposed.

D. When the first tile is removed, place it, without breaking it further into smaller pieces, in a heavy-duty impermeable trash bag or closed leak-tight container which will be used for disposal.

E. With the removal of the first tile accessibility of the other tile is improved. Force the wall scraper under the exposed edge of another tile and continue to exert a prying twisting force to the scraper as it is moved under the tile until the tile releases from the floor. Again, dispose of the tile, and succeeding tiles, by placing in the heavy-duty bag or closed leak-fight container without additional breaking.

F. Some tiles will release quite easily while others require varying degrees of force. Where the adhesive is spread heavily or is quite hard, it may prove easier to force the scraper through the tightly adhered areas by striking the scraper handle with a



Removal of tile over subfloor joint.

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hammer using blows of moderate force while maintaining the scraper at a 25° to 30° angle to the floor.

Continue to wet (mist) the tiles with a garden sprayer.

Caution: Use safety goggles.

G. If some areas are encountered where even the technique detailed in the previous paragraph proves to be inadequate, the removal procedure can be simplified by thoroughly heating the tile(s) with a hot air gun until the heat penetrates through the tile and softens the adhesive.

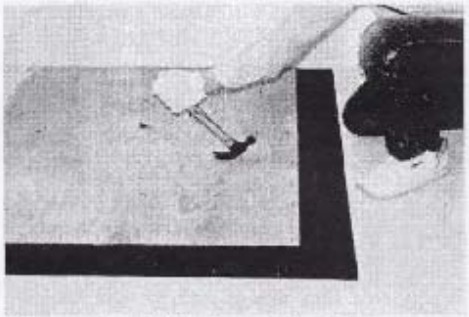
NOTE: Handle the hot air gun, tiles and adhesive carefully to avoid personal burns.

NOTE: Do not handle the heated tiles and adhesive without suitable glove protection for the hands.

H. After all the tiles have been removed from the underlayment joints, drive a chisel, using a hammer or a mallet, between the underlayment board and the subfloor. Use the chisel to pry up the underlayment enough to insert a pry bar and remove the chisel. Slowly and carefully use pry bars to pry up the underlayment board a little at a time until the board is completely loose and can be removed.

I. Caution must be used to avoid breaking the underlayment board. The underlayment board should be removed in one piece. If the underlayment board breaks, heat and slice the tile at the break, then continue to remove broken underlayment.

J. Wear heavy gloves and be very careful of wood splinters and fasteners sticking out of the back of the underlayment. Each underlayment board (or piece of board) should be removed from the work area as soon as it has been pried up to avoid injuries



Removing nails and staples from underlayment.

(such as stepping on a nail). Fasteners protruding from a removed board should be flattened with a hammer. Place removed underlayment boards on skids with the nails pointing downward. Wrap skid with 6 mil polyethylene plastic sheeting and secure with duct tape. Identify with a label stating "Caution–Contains Asbestos. Avoid opening or breaking container. Breathing asbestos may cause serious bodily harm." Dispose in an approved landfill only.

K. After each board has been removed, pull out any nails or fasteners still in the subfloor. Dispose of these and any other nails or fasteners which have been removed but are still lying in the work area.

L. A chisel is not needed to start the removal of boards after the first board has been removed. Simply work the pry bar under the exposed edge of the next board.

M. When removal of the underlayment/existing tile floor is complete, thoroughly check the exposed subfloor. Renail loose areas and reset any "popped" nails or fasteners.

N. Vacuum up any dirt in the area using the vacuum cleaner equipped with the HEPA filter and metal floor attachment (no brush).

O. After the underlayment is completely removed, install the new underlayment and/or floor covering according to the manufacturer's installation instructions.

WARNING

Warning Regarding Complete Adhesive Removal: Some Solvent Based "Cut-Back" Asphaltic Adhesives May Contain Asbestos Fibers That Are Not Readily Identifiable. Do Not Use Power Devices Which Create Asbestos Dust in Removing These Adhesives. The Inhalation of Asbestos Dust May Cause Asbestosis or Other Serious Bodily Harm. Smoking Greatly Increases the Risk of Serious Bodily Harm.

PREPARATION OF ADHESIVE COATED SUBFLOORS

The removal of latex based adhesives commonly used with vinyl sheet floors and some tiles can be accomplished by wetting the adhesive residue (which will soften the adhesive) and scraping. Do not use an excessive amount of water which can damage wood subfloors.

The degree to which residual asphalt adhesive has

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to be removed depends on the new flooring material which is being installed. Generally installation of Vinyl Composition Tile requires only the wet removal of adhesive ridges, excess adhesive, and loose adhesive residues. (See page 26, paragraph H).

Installation of sheet flooring and specialty tiles requiring latex, resin, or epoxy adhesives will require that the residual asphaltic adhesive be essentially completely removed.

I. Recommended Method for Preparing Concrete Subfloors Coated with Cut-Back or Emulsion Tile Adhesive.

Unless positively certain that the adhesive is a non-asbestos product presume it contains asbestos and treat it in the manner prescribed in the pamphlet for a cut-back or emulsion tile adhesive containing asbestos.

A. Trowelable Underlayment
Cover the adhesive residue with trowelable underlayment following the manufacturer's recommended application procedures. (Recommended for residential use only.) Patching compounds are not effective barriers to material migrating from asphaltic adhesives.

B. Self-Leveling Cementitious Underlayment
Follow manufacturer's recommendations for use of these types of underlayments as a covering for adhesive coated concrete.
NOTE: All warranties and recommendations as to the suitability and performance of these products are the responsibility of the manufacturer of the underlayment.

C. Adhesive Removers
The Resilient Floor Covering Institute does not recommend or approve the use of those products. There are a number of commercial adhesive removers on the market that will properly remove cut-back or emulsion adhesive residue from a subfloor; however, there are concerns that these products may adversely effect the new adhesive and new floor covering.

D. Wet Removal

Supplies and Tools

1. Broad stiff-bladed wall or floor scrapers, a 4-inch wide blade with handle is recommended.
2. No. 1 sandblasting sand (clean, sharp, course cutting sand).

3. Terrazzo or low-speed floor machine fitted with a floor plate attachment (Clark Assy. 500212-6).
4. Hand-held rubbing stones.
5. Wet/dry tank-type vacuum cleaner equipped with High Efficiency Particulate Air (HEPA) filter and metal floor attachment (no brush).
6. Heavy-duty polyethylene bags at least 6 mil thick, tape or ties, and labels.
7. Slip-resistant shoes or rubber heels.
8. Ground fault circuit interrupter for electrical connection of the HEPA vacuum and any other electrical connections required.
9. Garden sprayer.
10. A liquid dishwashing detergent which is stated to contain anionic, nonionic, and amphoteric surfactants. The detergent should be mixed with water to make a dilute solution (1 oz. of liquid in one gallon of water).

Procedure

1. Start in the corner of the room farthest from the entrance door and moisten an area of the adhesive approximately 3' x 10' with water mixed with liquid dishwashing detergent (to aid in wetting the adhesive). Wet scrape with a stiff-bladed wall or floor scraper removing ridges and any loose adhesives, until only a thin smooth film remains.
2. Place loosened adhesive residues into a heavy-duty impermeable trash bag or other impermeable container and seal with ties, tape or string and label "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause bodily harm." Dispose in an approved landfill only.
3. Wet vacuum standing water with HEPA wet/dry vacuum.
4. Continue steps 1 through 3 until entire area is wet scraped.
5. Place cutting sand into a container (enough to cover an approximate 6' x 6' area), add water mixed with liquid detergent (1 oz. of the specified detergent [See #10 above] to one gallon of water) to the sand to dampen (20 lbs. of sand to ½ gallon of solution).
6. Place sand over a 6' x 6' area and wet remove the existing adhesive residue using a terrazzo floor machine. Keep sand under rubbing stones when operating the machine. The sand and the subfloor

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must be continuously kept wet.

7. Occasionally push away cutting sand from the subfloor with a wall or floor scraper to check for complete removal.
8. Adhesive around the edge of the room and areas that were missed can be removed with dampened, clean, sharp cutting sand and a hand-held rubbing stone.
9. Wet scrape sand into a pile using a stiff-bladed floor or wall scraper and place sand and adhesive residue in a heavy-duty impermeable container, seal with ties or tape and label "Caution—Contains Asbestos. Avoid opening or breaking bag or container. Breathing asbestos may cause bodily harm." Dispose in an approved landfill only.
10. Rinse area with clear, clean water using the hand sprayer. Worker boots should also be rinsed and cleaned.
11. Wet vacuum standing water with a wet/dry vacuum equipped with a HEPA filter and metal floor attachment (no brush).
12. Continue steps 1 through 8 until the entire room is complete.
13. Allow subfloor to dry and vacuum up any remaining dirt or sand using a vacuum equipped with a HEPA filter and metal attachment (no brush).
14. After vacuuming, used HEPA filters and cleaner bags should be removed according to manufacturer's instructions and placed in a heavy-duty impermeable trash bag or a leak-tight container with a label stating "Caution—Contains Asbestos. Avoid opening or breaking container. Breathing asbestos is hazardous to your health." Close and seal the trash bags or container securely for disposal. Dispose in an approved landfill only.

E. Alternate Wet Removal Method

Supplies and Tools

1. Supplies and tools listed as items 1, 5, 6, 7, 8, 9 and 10 in Section D above, as well as the following:
2. Floor machine fitted with a 3M black floor pad (or equivalent).
3. Removal solution: "mop on, mop off, no machine scrub," stripping solution.
4. Water-absorbent material.

Procedure

1. Start in corner of the room farthest from the entrance door. Put the removal solution onto the residual

adhesive with a hand sprayer or mop over a 6' x 6' area. Put enough removal solution ("mop on, mop off, no machine scrub," stripping solution) on to ensure that the area is thoroughly wet. Allow the area to soak for 5-10 minutes. Remove the adhesive using a floor machine equipped with a 3M black floor pad (or equivalent). **The subfloor must be continuously kept wet.**
2. Occasionally push away the adhesive slurry from the subfloor with a wall or floor scraper to check for complete removal. Continue to use the floor machine, equipped with the black pad, in the same area until the concrete subfloor is cleaned to the desired degree. (This depends on what material will be reinstalled.)
3. Adhesive around the edge of the room and areas that were missed or difficult to reach with the machine can be removed with handheld piece of the black floor pad using the above procedures.
4. Wet HEPA vacuum the adhesive slurry. When the HEPA vacuum is full, place a commercially suitable water absorbent into the HEPA container until the adhesive slurry is absorbed. Place adhesive waste from The HEPA vacuum into heavy-duty impermeable bags or leak-tight container and seal with ties or tape and label "Caution—Contains Asbestos. Avoid Creating Dust. Breathing Asbestos May Cause Bodily Harm." Dispose in an approved landfill only.
5. Rinse floor area with clear, clean water using a hand sprayer or mop.
6. Wet vacuum standing water with HEPA wet/dry vacuum.
7. Continue steps 1 through 6 until the entire room is complete.
8. Allow subfloor to dry and vacuum with a HEPA vacuum.

WARNING

ELECTRICAL SHOCK HAZARD EXISTS. USE A GROUND FAULT CIRCUIT INTERRUPTER FOR ANY ELECTRICAL CONNECTIONS IN A WET ENVIRONMENT.

II. Recommended Methods for Preparing Wood Subfloor Coated with Cut-Back or Emulsion Adhesive

A. Trowelable Underlayment

Cover the adhesive residue with trowelable underlayment following manufacturer's recom-

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mended application procedures. (Recommended for residential use only.)

B. Wood Panel Underlayment

Normally it will not be necessary to remove the old tile when installing underlayment* over a single layer of tile. However, if the tile must be removed, the tackiness of the adhesive must be "dried-up" before installing new underlayment. This can be done by spreading a layer of powder from latex patching compound (either type) and vacuuming up the excess. Another method is to place a layer of asphalt saturated pattern scribing felt or two layers of newspaper over the tacky adhesive residue before the underlayment is installed. If the old adhesive is not "dried-up" before the underlayment is installed, there is the possibility that a "cracking" sound will be heard when the new floor is walked on, creating an unsatisfactory condition. This occurs because the underlayment is pressed into the tacky adhesive by foot traffic. When the pressure is released, the underlayment sticks momentarily and then springs from the tacky adhesive, creating a "cracking" noise.

C. Removal of Adhesive Coated Underlayment Panels

If removal of the existing underlayment panels is necessary, follow the procedure outlined under "Complete Removal of Thin Wood Underlayment Covered with Existing Resilient Flooring" steps G-M (page 28-31).

*See manufacturer's recommendations for approved underlayment types.

WARNING

Do not sand, dry sweep, dry scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt or asphaltic "cut-back" adhesives.

These products may contain either *asbestos fibers* or *crystalline silica*.

Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard.

Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.

Unless positively certain that the product is a non-asbestos containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

The RFCI's *Recommended Work Practices for Removal of Resilient Floor Coverings* are a defined set of instructions which should be followed if you must remove existing resilient floor covering structures.

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Resilient Floor Covering Institute
966 Hungerford Drive, Suite 12B
Rockville, MD 20850
(301) 340-8580

August 1995

This publication replaces prior editions of these work practices. Future editions of these work practices may be issued to replace this publication.

APPENDIX C

Training Course Outline

Removal of Resilient Floor Coverings in Accordance with Appendix B

All underlined text in this regulation indicates defined terms; clicking on underlined text will take you to its definition in section I.

These courses are designed to train Workers to remove asbestos containing flooring materials in accordance with Appendix B to this regulation. Unless the flooring materials are removed in accordance with section sections I, II, and III of this regulation, persons who remove asbestos-containing flooring materials must complete the 8-hour employee training course, including receiving a passing examination grade; persons who supervise the removal of asbestos-containing flooring materials must complete the 8-hour employee training course (including receiving a passing examination grade) and then successfully complete the additional course, including receiving a passing grade on a separate examination covering sections 10-13 of this outline. NOTE: Completion of these training courses does not satisfy the training requirements for Colorado certification as an asbestos abatement Worker or asbestos abatement Supervisor as provided in section II of this regulation.

8-HOUR EMPLOYEE TRAINING COURSE

Section 1 Background Information on Asbestos (slides, lecture, workbook, quiz)

- Characteristics of asbestos
- Categories of asbestos-containing building materials
- Friable and nonfriable condition of materials
- List of suspect asbestos-containing materials
- Determination/identification of asbestos-containing materials (including presumptions regarding flooring materials)
- Control options
- Potential health effects related to exposure to airborne asbestos
- Hazards of smoking and asbestos exposure
- Protective work practices and controls to minimize asbestos exposure

Section 2 Laws and Regulations (video, slides, lecture, workbook, quiz)

- Current regulations concerning the removal and disposal of asbestos-containing materials
- Regulated areas/Respirators/Negative Air Pressure/Protective Clothing/Decontamination Procedures
- How regulations are enforced
- Federal Government agencies that regulate asbestos removal

OSHA Asbestos Standard

EPANESHAP

EPA AHERA and ASHARA

DOT Regulations

- Difference between federal and state asbestos laws
- State and local asbestos regulations
- Hazard Communication Standard and safety issues

Section 3 Asbestos-Containing Resilient Flooring Materials (slides, lecture, workbook, quiz)

- Walk-through survey versus bulk sample analysis
- Types of floor coverings, which contain asbestos
- Determining friability of resilient floor coverings (EPA Recommended Test)
- Flooring adhesives, which contain asbestos
- Alternatives to removing asbestos-containing floor covering and adhesives
- Methods which should not be used to remove resilient floor covering materials
- Waste disposal procedures
- Notification requirements

Section 4 Removal of Resilient Floor Tile

- Video demonstration of properly removing floor tile
- Live demonstration of properly removing floor tile
- “Hands on” student practice removing floor tiles using heat and without heat
- Quiz

Section 5 Removal of Residual Asphaltic Adhesive

- Video demonstration of proper procedure for removing adhesive
- Review of proper procedure for removing adhesive
- “Hands on” student practice removing adhesive

- Quiz

Section 6 Removal of Resilient Sheet Flooring

- Video demonstration of proper procedure for removing sheet flooring
- Live demonstration of proper procedure for removing sheet flooring
- "Hands on" student practice removing sheet flooring
- Quiz

Section 7 Complete Removal of Wood Underlayment

- Video demonstration of proper procedures for removing resilient flooring complete with underlayment
- Review of proper procedures for complete removal of wood underlayment

Section 8 Review

- Review previous instruction and clarify any unanswered questions

Section 9 Examination Covering sections 1-7

ADDITIONAL TRAINING COURSE FOR PERSONS SUPERVISING

THE REMOVAL OF FLOORING MATERIALS

(4-Hour Minimum)

Section 10 Prework Activities and Considerations

- Determination of asbestos-containing materials

  Methods of identification
  Walk through survey/bulk sampling
  Common building materials containing asbestos

- Review of regulations

  OSHA
  EPA
  DOT
  State and Local

Section 11 Assessment of the Work Area

- Site preparation considerations
- Conducting a Negative Exposure Assessment
- Isolating the work area

- Adjacent areas
- Regulated areas
- Safety hazards

Section 12 Notification, Recordkeeping, and Waste Disposal

- Recordkeeping requirements
- Notification requirements
- Warning signs
- Special equipment
- Transport and disposal of asbestos waste

Section 13 Supervising Workers

- Establishing goals
- Providing clear instructions
- Establishing expectations
- Use of Supervisory authority
- Motivating Workers

Section 14 Review and Examination

- Review
- Examination (covering section sections 10-13)

PART C. Colorado State Standards for Hazardous Pollutants

I. Repealed

II. Statements of Basis, Specific Statutory Authority and Purpose for Part C

II.A. August 21, 1997

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Colorado Administrative Procedures Act, section 24-4-103, C.R.S.

Basis

This Commission action repeals Regulation No. 8, Part C, section II, [5 CCR 1001-10 (1997)], which set forth an emissions standard and emission testing requirement for all stationary sources of hydrogen sulfide.

Specific Statutory Authority

The Commission adopts these regulation revisions under its general authority found in section 25-7-105(1), C.R.S. and under the specific authority of sections 25-7-106(l)(c), and 25-7-109(1) and (2), C.R.S.

Purpose

Regulation No. 8, Part C, section II imposed an emission standard on all stationary sources of hydrogen sulfide. The Commission initially adopted this rule in September 1978 and later amended it in May 1994. Subsequently, the Colorado General Assembly enacted changes to section 25-7-103(11), C.R.S. (1996 Supp.). These changes prohibited emission control regulations that "include standards that describe maximum ambient air concentrations of specifically identified air pollutants...."

The existing rule barred emissions of hydrogen sulfide into the ambient air that would cause the one-hour average ambient air concentrations of hydrogen sulfide to exceed 142 micrograms per standard cubic meter (0.10 ppm). The Commission concludes that this existing rule is inconsistent with the legislative intent expressed in the 1995 statutory changes, and perhaps unenforceable. Accordingly, the Commission in this rulemaking deletes the existing rule in its entirety. The Commission did not include the existing rule as part of the state implementation plan, so this action is not a revision of that plan.

The Commission anticipates that the Division and interested parties will continue to work together to evaluate the need for regulation of hydrogen sulfide and the appropriate regulatory mechanism if such need exists.

II.B. Lead Emission Standard Removal

Adopted: March 18, 2010

The Commission intends to maintain and update its Regulation Number 8, Part C.

Statutory Authority

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Colorado Administrative Procedures Act, C.R.S. Section 24-4-103, and the Colorado Air Pollution Prevention and Control Act, C.R.S. Sections 25-7-109, 110, 110.5 and 110.8. Specifically, C.R.S. Sections 25-7-109(1),(2)(h) and (4), authorize the Commission to adopt, promulgate, and from time to time modify or repeal emission control regulations requiring effective practical air pollution controls for hazardous air pollutants, including lead, as well as broader, general authority to adopt regulations pertaining to hazardous air pollutants.

Basis

Colorado's Regulation Number 8, Part C includes an outdated lead emission standard. In 2008, EPA promulgated a more stringent lead NAAQS. The following table compares Regulation Number 8, Part C's lead emission standard to the lead NAAQS.

Old Lead (Pb) NAAQS	Reg 8, Part C Pb Emission Standard	Current Pb NAAQS

1.5 ug/m3 – **quarterly** avg.	1.5 ug/m3 – **monthly** avg.	**0.15** ug/m3 – **rolling 3 monthly** avg.

While the numerical lead standard was intentionally duplicative of the old lead NAAQS codified in Title 40 CFR Part 50, the averaging period used to demonstrate attainment differed (see above table).The difference in averaging periods (one month compared to 3 months) is insignificant compared to the difference in order of magnitude in numerical standards. Thus, the new lead NAAQS is considered more stringent and thus more protective than the state-only standard.

Subject sources are required to model compliance with the Regulation Number 8, Part C's lead emissions standard and the lead NAAQS in order to demonstrate compliance with both.

Purpose

The Commission intends to remove the Regulation Number 8, Part C lead emission standard and compliance demonstration requirement to eliminate duplicative and inconsistent lead standards, due to the recent promulgation of a new lead NAAQS (discussed above).

In addition, subsequent to the promulgation of the lead emission standard and compliance demonstration in Regulation Number 8, Part C, the law changed. The Colorado General Assembly enacted changes to Section 25-7-103(11), C.R.S. (1996 Supp.). These changes prohibited emission control regulations that "include standards that describe maximum ambient air concentrations of specifically identified air pollutants...."

This removal ensures compliance with the Legislature's directive to avoid emission control regulations with maximum ambient air concentrations for any specifically identified air pollutant.

The Commission did not include the existing rule as part of the state implementation plan, so this action is not a revision of that plan.

Findings pursuant to C.R.S. Sections 110.5(5)(a) and 110.8

The purpose of these revisions is to ensure consistency with EPA's adoption of a more stringent lead standard. Therefore, these revisions do not exceed or differ from the federal act or rules.

These revisions are not intended to reduce air pollution and do not result in a demonstrable reduction in air pollution; prior to this rulemaking, lead sources were required to comply with the federal lead standard so there is no effect on air pollution. Public health and the environment are sufficiently protected by the lead NAAQS. These revisions benefit the regulated community and the public by eliminating confusion caused by differences between state and federal requirements.

PART D. Compliance Extensions for Early Reductions of Hazardous Air Pollutants

I. Applicability

The provisions of this section apply to an owner or operator of an existing source who wishes to obtain a compliance extension from a standard issued under section 112(d) of the Federal act or under Section 25-7-109.3(3) of the Act. The provisions of this section also apply to the Division acting pursuant to the operating permit program approved under Title V of the Federal act and under Section 25-7-114.3 of the Act.

II. Definitions

II.A. General

All terms used in this section not defined below are given the same meaning as in the Federal act, the Act or as otherwise defined in this Regulation No. 8.

II.B. Definitions

II.B.1. “ACT” means the Colorado Air Pollution Prevention and control Act as amended.

II.B.2. “Actual emissions” means the actual rate of emissions of a pollutant, but does not include excess emissions from a malfunction, or startups and shutdowns associated with a malfunction. Actual emissions shall be calculated using the source's actual operating rates, and types of materials processed, stored, or combusted during the selected time period.

II.B.3. “Artificially or substantially greater emissions” means abnormally high emissions such as could be caused by equipment malfunctions, accidents, unusually high production or operating rates compared to historical rates, or other unusual circumstances.

II.B.4. “Division” means the Air Pollution Control Division of the Colorado Department of Health.

II.B.5. “EPA Conditional Method” means any method of sampling and analyzing for air pollutants that has been validated by the EPA Administrator but that has not been published as an EPA Reference Method.

II.B.6. “EPA Reference Method” means any method of sampling and analyzing for an air pollutant as described in Appendix A of Part 60, Appendix B of Part 61, or Appendix A of Part 63.

II.B.7. “Equipment leaks” means leaks from pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, agitators, accumulator vessels, and instrumentation systems in hazardous air pollutant service.

II.B.8. “Existing source” means any source as defined in III., the construction or reconstruction of which commenced prior to proposal of an applicable section 112(d) standard under the Federal act or Colorado MACT standard under Section 25-7-109.3(3) of the Act

II.B.9. “Hazardous air pollutant (HAP)” means any air pollutant listed pursuant to Section 25-7-109.3 of the Act

II.B.10. “High-risk pollutant” means a hazardous air pollutant listed in Table 1 of section V.

II.B.11. “Malfunction” means any sudden failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner. Failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered malfunctions.

II.B.12. “Not feasible to prescribe or enforce a numerical emission limitation” means a situation in which the Division determines that a pollutant (or stream of pollutants)

listed pursuant to Section 25-7-109.3(5)(a) of the Act cannot be emitted through a conveyance designed and constructed to emit or capture such pollutant, or that any requirement for, or use of, such a conveyance would be inconsistent with any State or Federal law; or the application of measurement technology to a particular source is not practicable due to technological or economic limitations.

II.B.13. "Permitting authority" means the Division under the authority of: an approved permitting program under Title V of the Federal act or the operating permitting program under Section 25-7-114.3 of the Act

II.B.14. "Responsible official" means one of the following:

II.B.14.a. For a corporation, a president; secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy-or decision-making functions for the corporation; or a duty authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either

II.B.14.a.(1). the facilities employ more man 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), or

II.B.14.a.(2). the delegation of authority to such representative is approved in advance by the permitting authority.

II.B.14.b. For a partnership or sole proprietorship, a general partner or the proprietor, respectively.

II.B.14.c. For a municipality, State, Federal, or other public agency, either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

II.B.15. "Reviewing agency" means the Division with an approved permitting program under Tide V of the Act An EPA Regional Office is the reviewing agency where the State does not have such an approved permitting program.

III. General provisions for compliance extensions

III.A. Except as provided in paragraph (E) of section III., a permitting authority shall allow an existing source to meet an alternative emission limitation in lieu of an emission limitation promulgated under section 112(d) of the Federal act or under Section 25-7-109.3(3) of the Act for a period of 6 years from the compliance date of the otherwise applicable standard provided the source owner or operator demonstrates:

III.A.1. According to the requirements of section V. that the source has achieved a reduction of 90 percent (95 percent or more in the case of hazardous air pollutants which are particulates) in emissions of:

III.A.1.a. Total hazardous air pollutants from the source, except in the case of an applicable standard under section 112(d) of the Federal act, then the total hazardous air pollutants from the source are only those pollutants listed under section 112(b) of the Federal Act and only those shall count toward the early reduction.

III.A.1.b. Total hazardous air pollutants from the source as adjusted for high-risk pollutant weighting factors, if applicable.

III.A.2. That such reduction was achieved before proposal of an applicable standard.

III.B. A source granted an alternative emission limitation shall comply with an applicable standard issued under section 112(d) of the Federal act or Section 25-7-109.3(3) of the Act immediately upon expiration of the six year compliance extension period specified in section III.A.

III.C. For each permit issued to a source under section III.A., there shall be established as part of the permit an enforceable alternative emission limitation for hazardous air pollutants reflecting the reduction that qualified the source for the alternative emission limitation.

III.D. An alternative emission limitation shall not be available with respect to standards or requirements promulgated to provide an ample margin of safety to protect public health pursuant to section 112(f) of the Federal act or Section 25-7-109.3(4) of the Act, and the Commission will, for the purpose of determining whether a standard under Section 25-7-109.3(4) of the Act is necessary, review emissions from sources granted an alternative emission limitation under this Section at the same time that other sources in the category or subcategory are reviewed.

III.E. Nothing in this regulation shall preclude the Division from requiring hazardous air pollutant reductions in excess of 90 percent (95 percent in the case of particulate hazardous air pollutants) as a condition of the Division granting an alternative emission limitation authorized in section III.A.

IV. Source

IV.A. An alternative emission limitation may be granted under this Section to an existing source. For the purposes of this Section only, a source is defined as follows:

IV.A.1. A building structure, facility, or installation identified as a source by the EPA or the Division;

IV.A.2. All portions of an entire contiguous plant site under common ownership or control that emit hazardous air pollutants;

IV.A.3. Any portion of an entire contiguous plant site under common ownership or control that emits hazardous air pollutants and can be identified as a facility, building, structure, or installation for the purposes of establishing standards under section 112(d) of the Federal act or Section 25-7-109.3(3) of the Act; or

IV.A.4. Any individual emission point or combination of emission points within a contiguous plant site under common control, provided that emission reduction from such point or aggregation of points constitutes a significant reduction of hazardous air pollutant emissions of the entire contiguous plant site.

IV.B. For purposes of section IV.A.4., emissions reductions are considered significant if they are made from base year emissions of not less than:

IV.B.1. A total of 10 tons per year of hazardous air pollutants where the total emissions of hazardous air pollutants in the base year from the entire contiguous plant site is greater than 25 tons per; or

IV.B.2. A total of 5 tons per year of hazardous air pollutants where the total emissions of hazardous air pollutants in the base year from the entire contiguous plant site is less than or equal to 25 tons per year.

V. Demonstration of early reduction

V.A. An owner or operator applying for an alternative emission limitation shall demonstrate achieving early reductions as required by section III.A.I. by following the procedures in this section. Only hazardous air pollutants listed under section 112(b) of the Federal act shall apply toward an early reduction of a 112(d) standard issued under the Federal act

V.B. An owner or operator shall establish the source for the purposes of this Section by documenting the following information:

V.B.I. A description of the source including; a site plan of the entire contiguous plant site under common control which contains the source, markings on the site plan locating the parts of the site that constitute the source, and the activity at the source which causes hazardous air pollutant emissions;

V.B.2. A complete list of all emission points of hazardous air pollutants in the source, including identification numbers and short descriptive titles; and

V.B.3. A statement showing that the source conforms to one of the allowable definition options from section IV. For a source conforming to the option in section IV.A.4., the total base year emissions from the source, as determined pursuant to this section, shall be demonstrated to be at least

V.B.3.a. 5 tons per year, for cases in which total hazardous air pollutant emissions from the entire contiguous plant site under common control are 25 tons per year or less as calculated under section V.B.1., or

V.B.3.b. 10 tons per year in all other cases.

V.C. An owner or operator shall establish base year emissions for the source by providing the following information:

V.C.1. The base year chosen, where the base year shall be 1987 or later except that the base year may be 1985 or 1986 if the owner or operator of the source can demonstrate that emission data for the source for 1985 or

1986 was submitted to the Administrator pursuant to an information request issued under section 114 of the Act and was received by the Administrator prior to November 15,1990;

V.C.2. The best available data accounting for actual emissions, during the base year, of all hazardous air pollutants from each emission point listed in the source in section V.B.2.

V.C.3. The supporting basis for each emission number provided in section V.C.2. including;

V.C.3.a. For test results submitted as the supporting basis, a description of the test protocol followed, any problems encountered during the testing, and a discussion of the validity of the method for measuring the subject emissions; and

V.C.3.b. For calculations based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used and their bases, and a brief rationale for the validity of the calculation method used; and

V.C.4. Evidence that the emissions provided under section V.C.2. are not artificially or substantially greater than emissions in other years prior to implementation of emission reduction measures.

V.D. An owner or operator shall establish post-reduction emissions by providing the following information:

V.D.1. For the emission points listed in the source in section V.B.2., a description of all control measures employed to achieve the emission reduction required by section III.A.1.;

V.D.2. The best available data on an annual basis accounting for actual emissions, after the base year and following employment of emission reduction measures, of all hazardous air pollutants from each emission point in the source listed in section V.B.2.;

V.D.3. The supporting basis for each emission number provided in section V.D.2. including:

V.D.3.a. For test results submitted as the supporting basis, a description of the test protocol followed, any problems encountered during the testing, and a discussion of the validity of the method for measuring the subject emissions; and

V.D.3.b. For calculations based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used and their bases, and a brief rationale for the validity of the calculation method used;

V.D.4. Evidence that all emission reductions used for the early reductions demonstration were achieved prior to proposal of an applicable standard

issued under section 112(d) of the Federal act or Section 25-7-109.3(3) of the Act; and

V.D.5. Evidence that there was no increase in radionuclide emissions from the source, as shown in base year and post reduction year demonstrations, as applicable.

V.E. An owner or operator shall demonstrate that:

V.E.1. Both total base year emissions and total base year emissions adjusted for high-risk pollutants, as applicable, have been reduced by at least 90 percent for gaseous hazardous air pollutants emitted and 95 percent for particulate hazardous air pollutants emitted by determining the following for gaseous and particulate emissions separately:

V.E.1.a. Total base year emissions, calculated by summing all base year emission data from section V.C.2.;

V.E.1.b. Total post-reduction emissions, calculated by summing all post-reduction emission data from section V.D.2.;

V.E.1.c. (If applicable) Total base year emissions adjusted for high-risk pollutants, calculated by multiplying each emission number for a pollutant from section V.C.2. by the appropriate weighting factor for the pollutant from Table 1 in section V.F. and then summing all weighted emission data; and

V.E.1.d. (If applicable) Total post-reduction emissions adjusted for high-risk pollutants, calculated by multiplying each emission number for a pollutant from section V.D.2. by the appropriate weighting factor for the pollutant from Table 1 in section V.F. and then summing all weighted emission data.

V.E.1.e. Percent reductions, calculated by dividing the difference between base year and post-reduction emissions by the base year emissions. Separate demonstrations are required for total gaseous and particulate emissions, and total gaseous and particulate emissions adjusted for high-risk pollutants.

V.E.2. If any points in the source emit both particulate and gaseous pollutants, as an alternative to the demonstration required in section V.E.1.a.

V.E.2.a. A weighted average percent reduction for all points emitting both particulate and gaseous pollutants where the weighted average percent reduction is determined by

$$\%w = \frac{0.9\,(\text{å}\ Mg) + 0.95\,(\text{å}\ Mp)}{\text{å}\ Mg + \text{å}\ MP} \times 100$$

where *%w* = the required weighted percent reduction

m_g = the total mass rate (e.g., kg/yr) of all gaseous emissions

m_p = the total mass rate of all particulate emissions and,

V.E.2.b. The reductions required in section V.E.1. for all other points in the source.

V.F. If lower rates or hours are used to achieve all or part of the emission reduction, any hazardous air pollutant emissions that occur from a compensating increase in rates or hours from the same activity elsewhere within the plant site which contains the source shall be counted in the post-reduction emissions from the source. If emission reductions are achieved by shutting down process equipment and the shutdown equipment is restarted or replaced anywhere within the plant site, any hazardous air pollutant emissions from the restarted or replacement equipment shall be counted in the post-reduction emissions for the source.

Table 1. LIST OF HIGH-RISK POLLUTANTS

CAS No.	Chemical	Weighting Factor
53963	2-Acerylaminofluorene	100
107028	Acrolein	100
79061	Acrylamide	10
79107	Acrylic acid	10
107131	Acrylonitrile	10
0	Arsenic compounds	100
1332214	Asbestos	100
71432	Benzene	10
92875	Benzidine	1000
0	Beryllium compounds	10
542881	Bis(chloromethyl) ether	1000
106990	1,3-Butadiene	10
0	Cadmium compounds	10
57749	Chlordane	100
532274	2-Chloroacetophenone	100
0	Chromium compounds	100
107302	Chloromethyl methyl ether	10

CAS No.	Chemical	Weighting Factor
0	Coke oven emissions	10
334883	Diazomethane	10
132649	Dibenzofuran	10
96128	1,2-Dibromo-3-chloropropane	10
111444	Dichloroethyl ether (Bis(2-chloroethyl)ether)	10
79447	Dimethylcarbamoyl chloride	100
122667	1,2-Diphenylhydrazine	10
106934	Ethylene dibromide	10
151564	Ethylenimine (Aziridine)	100
75218	Ethylene oxide	10
76448	Heptachlor	100
118741	Hexachlorobenzene	100
77474	Hexachlorocyclopentadiene	100
302012	Hydrazine	100
0	Manganese compounds	10
0	Mercury compounds	100
101688	Methylene diphenyl diisocyanate (MDI)	10
60344	Methyl hydrazine	10
624839	Methyl isocyanate	10
0	Nickel compounds	10
62759	N-Nitrosodimethylamine	100
684935	N-Nitroso-N-methylurea	1000
56382	Parathion	10

CAS No.	Chemical	Weighting Factor
75445	Phosgene	10
7803512	Phosphine	10
7723140	Phosphorus	10
75558	1,2-Propylenimine	100
1746016	2,3,7,8-Tetrachlorodibenzo-p-dioxin	100,000
8001352	Toxaphene (chlorinated camphene)	100
75014	Vinyl chloride	10

V.G. The best available data representing actual emissions for the purpose of establishing base year or post-reduction emissions under this section shall consist of documented results from source tests using an EPA Reference Method, EPA Conditional Method, or the owner's or operator's source test method which has been validated pursuant to Method 301 of Appendix A of this Regulation. However, if one of the following conditions exists, an owner or operator may submit, in lieu of results from source tests, calculations based on engineering principles, emission factors, or material balance data as actual emission data for establishing base year or post-reduction emissions:

V.G.I. No applicable EPA Reference Method, EPA Conditional Method, or other source test method exists;

V.G.2. It is not technologically or economically feasible to perform source tests;

V.G.3. It can be demonstrated to the satisfaction of the reviewing agency that the calculations will provide emission estimates of accuracy comparable to that of any applicable source test method;

V.G.4. For base year emission estimates only, the base year conditions no longer exist at an emission point in the source and emission data could not be produced for such an emission point, by performing source tests under currently existing conditions and converting the test results to reflect base year conditions, that is more accurate than an estimate produced by using engineering principles, emission factors, or a material balance; or

V.G.5. The emissions from one or a set of emission points in the source are small compared to total source emissions and potential errors in establishing emissions from such points will not have a significant effect on the accuracy of total emissions established for the source.

V.H. For base year or post-reduction emissions established under this section that are not supported by source test data, the source owner or operator shall include the reason source testing was not performed.

V.I. In cases where emission control measures have been employed less than a year prior to demonstrating emission reductions under this section, an owner or operator shall extrapolate post-reduction emission rate data to an annual basis and shall describe the extrapolation method as part of the supporting basis required under section V.D.

V.J. The EPA average emission factors for equipment leaks cannot be used under this Section to establish base year emissions for equipment leak sources, unless the base year emission number calculated using the EPA average emission factors for equipment leaks also is used as the post-reduction emission number for equipment teaks from the source.

V.K. A source owner or operator shall not establish base year or post-reduction emissions that include any emissions from the source exceeding allowable emission levels specified in any applicable law, regulation, or permit condition.

V.L. For sources subject to section V.B.3.a., an owner or operator shall document total base year emissions from an entire contiguous plant site under common control by providing the information required pursuant to section Sections V.B.2., V.C.2. and V.E.l.a. for all hazardous air pollutants from all emission points in the contiguous plant site under common control

V.M. If a new pollutant is added to the list of hazardous air pollutants or high-risk pollutants, any source emitting such pollutant will not be required to revise an early reduction demonstration pursuant to this section if alternative emission limits have previously been specified by permit for the source as provided for in section III.A.

VI. Review of base year emissions

VI.A. Pursuant to the procedures of this section, the appropriate reviewing agency shall review and approve or disapprove base year emission data submitted in a request letter from an applicant that wishes to participate in the early reduction program. For review requests submitted to the Division as the appropriate reviewing agency, a copy of the request also shall be submitted to the applicable EPA Regional Office. Copies also shall be submitted to the EPA Stationary Source Compliance Division (EN-341W), 401 M Street, SW, Washington, DC 20460 and the EPA Emission Standards Division (MD-13), Research Triangle Park, NC 27711; to the attention of the Early Reductions Officer.

VI.B. Within 30 days of receipt of base year emission data, the reviewing agency shall advise the applicant that:

VI.B.1. The base year emission data are complete as submitted; or

VI.B.2. The base year emission data are not complete and include a list of deficiencies that must be corrected before review can proceed.

VI.C. Within 60 days of a determination that a base year emission data submission is complete, the reviewing agency shall evaluate the adequacy of the submission with respect to the requirements of section V.B. and C. and either

VI.C.1. Determine to approve the submission and publish a notice in a newspaper of general circulation in the area where the source is located or in the COLORADO REGISTER, providing the aggregate base year

emission data for the source and the rationale for the proposed approval, noting the availability of the nonconfidential information contained in the submission for public inspection in at least one location in the community in which the source is located, providing for a public hearing upon request by an interested party, and establishing a 30 day public comment period that can be extended to 60 days upon request by an interested party; or

V1.C.2. Determine to disapprove the base year emission data and give notice to the applicant of the reasons for the disapproval. An applicant may correct disapproved base year data and submit revised data for review in accordance with this subsection, except that the review of a revision shall be accomplished within 30 days.

VI.D. If no adverse public comments are received by the reviewing agency on proposed base year data for a source, the data shall be considered approved at the close of the public comment period and a notice of the approval shall be sent to the applicant and published by the reviewing agency by advertisement in the area affected.

VI.E. If adverse comments are received and the reviewing agency agrees that corrections are needed, the reviewing agency shall give notice to the applicant of the disapproval and reasons for the disapproval. An applicant may correct disapproved base year emission data and submit revised emission data. If a revision is submitted by the applicant that, to the satisfaction of the reviewing agency, takes into account the adverse comments, the reviewing agency will publish by advertisement in the area affected a notice containing the approved base year emission data for the source and send notice of the approval to the applicant

VI.F. If adverse comments are received and the reviewing agency determines that the comments do not warrant changes to the base year emission data, the reviewing agency will publish by advertisement in the area affected a notice containing the approved base year emission data for the source and the reasons for not accepting the adverse comments. A notice of the approval also shall be sent to the applicant

VII. Application procedures

VII.A. To apply for an alternative emission limitation under section III, an owner or operator of the source shall file an appropriate permit application with the permitting authority.

VII.B. The permit application shall contain a demonstration of early reduction for the source as prescribed in section V. and the additional information required for a complete permit application as specified by the Division's permitting program approved under Title V of the Federal act and/or under Section 25-7-114.3 of the Act

VII.C. Permit applications under this section shall be submitted by the later of the following dates:

VII.C.1. The date of proposal of an otherwise applicable standard issued under section 112(d) of the Federal act or, Section 25-7-109.3(3) of the Act

VII.C.2. 120 days after approval of the Division's permit program under Tide V of the Federal act

VII.D. If a source test is the supporting basis for establishing post-reduction emissions for one or more emission points in the source but the test results are not available by the deadline for submittal of a permit application according to section VIII.C., the owner or operator shall provide the supporting basis no later than 120 days after the applicable deadline for submittal of the permit application.

VII.E. Review and disposition of permit applications submitted under this section will be accomplished according to 40 CFR Part 70 and/or Section 25-7-114.3 of the Act

VIII. Early reduction demonstration evaluation

VIII.A. The permitting authority will evaluate an early reduction demonstration submitted by the source owner or operator in a permit application with respect to the requirements of section V.

VIII.B. An application for a compliance extension may be denied if, in the judgment of the permitting authority, the owner or operator has failed to demonstrate that the requirements of section V. have been met Specific reasons for denial include, but are not limited to:

VIII.B.1. The information supplied by the owner or operator is incomplete;

VIII.B.2. The required 90 percent reduction (95 percent in cases where the hazardous air pollutant is particulate matter) has not been demonstrated;

VIII.B.3. The base year or post-reduction emissions are incorrect, based on methods or assumptions that are not valid, or not sufficiently reliable or well documented to determine with reasonable certainty that required reductions have been achieved; or

VIII.B.4. The emission of hazardous air pollutants or the performance of emission control measures is unreliable so as to preclude determination that the required reductions have been achieved or will continue to be achieved during the extension period.

IX. Approval of applications

IX.A. If an early reduction demonstration is approved and other requirements for a complete permit application are met, the permitting authority shall establish by a permit issued pursuant to Title V of the Federal act and/or under Section 25-7-114.3 of the Act enforceable alternative emissions limitations for the source reflecting the reduction which qualified the source for the extension. However, if it is not feasible to prescribe a numerical emissions limitation for one or more emission points in the source, the permitting authority shall establish such other requirements, reflecting the reduction which qualified the source for an extension, in order to assure the source achieves the 90 percent or 95 percent reduction, as applicable.

IX.B. An alternative emissions limitation or other requirement prescribed pursuant to section X.A. shall be effective and enforceable immediately upon issuance of the permit for the source and shall expire exactly six years after the compliance date

of an otherwise applicable standard issued pursuant to section 112(d) of the Federal act or Section 25-7-109.3(3) of the Act

X. Enforcement

X.A. All base year or post-reduction emissions information described in section V. and required to be submitted as part of a permit application under section VII. shall be considered to have been requested by the Administrator under the authority of section 114 of the Federal act or by the Division under Section 25-7-111(2)(i) of the Act

X.B. Fraudulent-statements contained in any base year or post-reduction emissions submitted to the Division or EPA Regional Office under this Regulation shall be considered violations of section 114 of the Federal act and of this regulation and, thus, actionable under section 113 of the Federal act and can be considered, in appropriate cases, violations of 18 U.S.C. §1001, the general false swearing provision of the United States Code, and/or under Section 25-7-122.1(2) of the Act

X.C. If an early reduction in a permit application filed under section VII is disapproved, the owner or operator shall comply with an applicable standard issued under section 112(d) of the Federal act and/or Section 25-7-109.3(3) of the Act by the compliance date specified in each standard.

X.D. A violation of an alternative emission limitation or other requirement established by permit under section IX.A. or B. for the source is enforceable pursuant to the authority of section 113 of the Federal act and enforcement provisions of the Act notwithstanding any demonstration of continuing 90 percent (95 percent for hazardous air pollutants which are particulates) emission reduction over the entire source.

XI. Rules for Special Situations

XI.A. If more than one standard issued under section 112(d) of the Federal act or Section 25-7-109.3(3) of the Act would be applicable to a source as defined under Section IV., then the date of proposal referred to in section III.A.2., V.D.4., and VII.C. is the date the first applicable standard is proposed.

XI.B. Sources emitting radionuclides are not required to reduce radionuclides by 90 (95) percent Radionuclides may not be increased from the source as a result of the early reductions demonstration.

XII. Permit Fee Credits

XII.A. Applicability and Scope

XII.A.1. The provisions of this section XII. shall be applicable to any source of hazardous air pollutants participating in the federal or state early reductions program described in section Sections I. through XI. of this regulation, or in the E.P.A.'s 33/50 voluntary pollution prevention program, as set forth below, and that make reductions in actual emissions of hazardous air pollutants subsequent to July 1,1992.

XII.A.2. The permit fee credit described in this section shall be available to a source on a one-time basis, and shall only be available in the year

following the continuous 12 month period in which the source made its air emissions reduction or its reduction demonstration. If a source is unable to fully use the fee credit in the year following the 12 month period in which the source achieved its reduction or demonstration, the unused portion of the fee credit may be banked for use in the next year or years and shall be utilized to the maximum extent possible in each year. Qualifying sources of hazardous air pollutants may not carry over emissions reductions from previous years, except that sources claiming emissions reductions from July 1, 1992 shall be allowed to claim such reductions until April 30,1995.

XII.A.3. The permit fee credit, to the extent funded by the Colorado general assembly, shall be utilized as a credit against the annual fees described in section 25-7-114.7, C.R.S. (1989 & 1993 Supp.), and may be used for no other purpose.

XII.A.4. The permit fee credit described in this section shall be subject to annual appropriations from the Colorado general assembly allocated for this purpose. Permit fee credits shall be distributed (on a 2 credits for each 1 ton of emissions reduced) to qualifying sources on a proportional basis, dependent upon the annual funding, the number of sources seeking the permit fee credit, and the amount of emissions reductions realized in any given year.

XII.A.5. Sources applying for a permit fee credit pursuant to this section shall not be allowed to bank or trade any air emissions for which a permit fee credit is sought or has been received.

XII.A.6. The permit fee credit is nontransferable.

XII.B. General Provisions for Permit Fee Credits

XII.B.1. The following sources may apply for a permit fee credit pursuant to this section:

XII.B.1.a. any source, as defined in section IV. of this regulation -

XII.B.1.a.(1). that is participating in the early reductions program, section Sections I. through XI. of this regulation;

XII.B.1.a.(2). that makes a reduction in its hazardous air pollutant emissions after July 1,1992; and

XII.B.1.a.(3). that demonstrates to the Division's satisfaction that the reductions for which a permit fee credit is sought are credible, quantifiable, replicable, and made permanent with a State enforceable permit emissions cap or limitation or federally enforceable emissions cap or limitation where applicable; or

XII.B.l.b. any source that is participating in the EPA's 33/50 voluntary pollution prevention program -

XII.B.1.b.(1). that is located in the State of Colorado;

XII.B.1.b.(2). that meets the EPA's national goal of a 50% reduction in its air emissions of one or more of the following substances by December 31,1995:

*metals: cadmium (& cadmium compounds); chromium (& chromium compounds); lead (& lead compounds); mercury (& mercury compounds); nickel (& nickel compounds);

*chlorinated organics: carbon tetrachloride; chloroform; methylene chloride; tetrachloroethylene; 1,1,1-trichloroethane; trichloroethane;

*aromatics: benzene; toluene; xylenes;

*miscellaneous: methyl ethyl ketone; methyl isobutyl ketone; cyanide (& cyanide compounds);

XII.B.1.b.(3). that demonstrates to the Division's satisfaction (in a manner pursuant to the requirements in section V. of this regulation) that the reductions for which a permit fee credit is sought are credible, quantifiable, replicable, made permanent with a State enforceable permit emissions cap or limitation or federally enforceable emissions cap or limitation where applicable, and are the result of pollution prevention activity;

XII.B.1.b.(4). no credit will be given for any reductions made by a source's parent or affiliated facilities;

XII.B.1.b.(5). no credit will be given for a source's reduction of emissions in one of the substances listed in paragraph B.l.b.(ii). above, where the reduction was achieved by merely substituting a listed substance with another hazardous air pollutant not listed in that paragraph, but otherwise listed in Section 25-7-109.3(5), C.R.S. (1993 Supp.).

XII.B.2. Sources participating in the Early Reductions Program of section Sections I.-XI of this regulation and claiming a permit fee credit as a result of a shutdown shall not restart the operations from date of issuance of the permit containing enforceable emissions cap reflecting the emissions reduction due to shutdown, except that:

XII.B.2.a. Sources shall be required to reimburse the Division in an amount equal to that received pursuant to this section XII. in the event a restart occurs. Such payment shall be made within thirty-(30) days of the restart of such operations.

XII.B.2.b. Sources restarting operations described in this paragraph shall be considered a new source and shall be required to comply with the applicable provisions of Regulation No. 3 concerning new sources, as well as with all other applicable requirements.

XII.B.3. No permit fee credits will be given for emissions reductions that are a result of incorrect reporting on a source's APEN filed with the Division, on

the Toxics Release Inventory (TRI) reporting, or on any other report filed with the State of Colorado or the E.P.A.

XII.B.4. No permit fee credits will be given for emissions reductions that are accompanied by a contemporaneous compensating increase in hazardous air pollutants elsewhere in the facility that would otherwise prohibit participation in the 33/50 program or that decreases the air quality benefit derived from the early reduction commitment

XII.B.5. Sources shall be required to reimburse the Division within thirty-(30) days in an amount equal to that received pursuant to this section XII. in the event that the source increases its emissions of hazardous air pollutants resulting in a decrease in the air quality benefit derived from the emissions reduction which gave rise to the permit fee credit This reimbursement shall be required at any time during the life of the source since the intent of this program is to achieve permanent reductions.

XII.C. Notification Requirements

XII.C.1. Permit fee credits for sources participating in the early reductions program set forth in this regulation shall:

XII.C.1.a. be available only in the year following the calendar year in which the source makes a qualifying reduction in its air emissions; and

XII.C.1.b. any such source shall notify the Division, in writing on or before April 30 of any year in which the emissions reductions have been achieved in the previous calendar year or will be achieved by December 31 of the same calendar year, of its intent to claim the permit fee credit in the following year, and provide an estimate or actual amount of reductions anticipated or achieved for that year.

XII.C.2. Permit fee credits, for sources, which participate in the E.P.A.'s 33/50 voluntary pollution prevention program and qualify for fee credits pursuant to section XII.B.l.b. of this regulation, shall:

XII.C.2.a. be available no sooner than 1996;

XII.C.2.b. be available only to sources that have achieved 50% reduction in hazardous air pollutants listed in section XII B.1.b.(ii) of this regulation by the end of the year in which a permit fee credit is sought A permit fee credit is available only for those reductions achieved in a continuous 12 month period since July 1,1992.

XII.C.2.c. any such source shall notify the Division, in writing on or before April 30 of 1996, of its intent to claim the permit fee credit in 1996 or later, and shall provide an estimate or actual amount of reductions anticipated or achieved since July 1, 1992.

XII.D. Emissions Reductions Demonstrations

XII.D.1. To qualify for a permit fee credit, a source shall establish its base emissions at the beginning of the year in which the reductions are achieved by providing the best available data accounting for actual emissions during the previous year, of all hazardous air pollutants from each emission point listed in the source (section V.B.2.), and provide supporting documentation, including

XII.D.1.a. performance test results as well as a description of the test protocol followed, any problems encountered during the test, and a discussion of the validity of the method for measuring the emissions; or

XII.D.1.b. for calculations allowed pursuant to section V.G. which are based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used and their bases, and a brief rationale for the validity of the calculation method used;

XII.D.1.c. and evidence that the emissions information from the previous year is not artificially or substantially greater than emissions in other years.

XII.D.2. A source shall establish post-reduction emissions by providing the following information:

XII.D.2.a. for emission points listed in the source (section V.B.2.), a description of all control measures or pollution prevention activities employed to achieve the reduction;

XII.D.2.b. the best available data accounting for actual emissions following employment of emission reduction measures, of all hazardous air pollutants from each emission point in the source;

XII.D.2.c. supporting data including:

XII.D.2.c.(1). for test results, a description of the test protocol followed, any problems encountered during the testing, and a discussion of the validity of the method for measuring the subject emissions; or

XII.D.2.c.(2). for calculations allowed pursuant to section V.G. which are based on emission factors, material balance, or engineering principles and submitted as the supporting basis, a step-by-step description of the calculations, including assumptions used and their bases, and a brief rationale for the validity of the calculation method used.

XII.D.3. Emissions reductions from sources or activities that are exempt from the air pollutant emissions notice (“APEN”) filing requirements shall not be allowed as part of the emissions reductions demonstration of this section XII

XII.D.4. The emissions reductions demonstration required in this section XII.D. shall be submitted to the Division on or before April 30 of the year following the year in which the reductions were achieved. Sources

claiming emissions reductions for reductions made between July 1, 1992 and December 31, 1993 shall submit their emissions reductions demonstration on or before April 30,1995.

APPENDIX A (for Part D)

Test Methods - Method 301

Field Validation of Pollutant Measurement Methods from Various Waste Media

1. APPLICABILITY AND PRINCIPLE

1.1. Applicability

This method, as specified in the applicable subpart, is to be used whenever a source owner or operator (hereafter referred to as an “analyst”) proposes a test method to meet a U.S. Environmental Protection Agency (EPA) requirement in the absence of a validated method. This Method includes procedures for determining and documenting the quality, i.e., systematic error (bias) and random error (precision), of the measured concentrations from an effected source. This method is applicable to various waste media (i.e., exhaust gas, wastewater, sludge, etc.).

1.1.1

If EPA currently recognizes an appropriate test method or considers the analyst's test method to be satisfactory for a particular source, the Administrator may waive the use of this protocol or may specify a less rigorous validation procedure. A list of validated methods may be obtained by contacting the Emission Measurement Technical Information Center (EMTIC), Mail Drop 19, U.S. Environmental Protection Agency, Research Triangle Park, NC 27711, 919/541-0200. Procedures for obtaining a waiver are in section 12.0.V

1.1.2

This method includes optional procedures that may be used to expand the applicability of the proposed method. section 7.0 involves ruggedness testing (Laboratory Evaluation), which demonstrates the sensitivity of the method to various parameters. section 8.0 involves a procedure for including sample stability in bias and precision for assessing sample recovery and analysis times; section 9.0 involves a procedure for the determination of the practical limit of quantitation for determining the lower limit of the method. These optional procedures are required for the waiver consideration outlined in section 12.0.

1.2. Principle.

The purpose of these procedures is to determine bias and precision of a test method at the level of the applicable standard. The procedures involve (a) introducing known concentrations of an analyte or comparing the test method against a validated test method to determine the method's bias and (b) collecting multiple or collocated simultaneous samples to determine the method's precision.

1.2.1. Bias

Bias is established by comparing the method's results against a reference value and may be eliminated by employing a correction factor established from the data obtained during the validation test. An offset bias may be handled accordingly. Methods that have bias

correction factors outside 0.7 to 1.3 are unacceptable. Validated method to proposed method comparisons, section 6.2, requires a more restrictive test of central tendency and a lower correction factor allowance of 0.90 to 1.10.

1.2.2. Precision

At the minimum, paired sampling systems shall be used to establish precision. The precision of the method at the level of the standard shall not be greater than 50 percent relative standard deviation. For a validated method to proposed method equivalency comparisons, section 6.2, the analyst must demonstrate that the precision of the proposed test method is as precise as the validated method for acceptance.

2. DEFINITIONS

2.1. Negative bias

Bias Resulting when the measured result is less than the “true” value.

2.2. Paired sampling system

A sampling system capable of obtaining two replicate samples that were collected as closely as possible in sampling time and sampling location.

2.3. Positive bias

Bias resulting when the measured result is greater than the “true” value.

2.4. Proposed method

The sampling and analytical methodology selected for field validation using the method described herein.

2.5. Quadruplet sampling system

A sampling system capable of obtaining four replicate samples that were collected as closely as possible in sampling time and sampling location.

2.6. Surrogate compound

A compound that serves as a model for the types of compounds being analyzed (i.e., similar chemical structure, properties, behavior). The model can be distinguished by the method from the compounds being analyzed.

3. REFERENCE MATERIAL

The reference materials shall be obtained or prepared at the level of the standard. Additional runs with higher and lower reference material concentrations may be made to expand the applicable range of the method, in accordance with the ruggedness test procedures.

3.1. Exhaust Gas Tests

The analyst shall obtain a known concentration of the reference material (i.e., analyte of concern) from an independent source such as a specialty gas manufacturer, specialty chemical company, or commercial laboratory. A list of vendors may be obtained from EMTIC (see section 1.1.1). The

analyst should obtain the manufacturer's stability data of the analyte concentration and recommendations for recertification.

3.2. Other Waste Media Tests

The analyst shall obtain pure liquid components of the reference materials (i.e., analytes of concern) from an independent manufacturer and dilute them in the same type matrix as the source waste. The pure reference materials shall be certified by the manufacturer as to purity and shelf life. The accuracy of all diluted reference material concentrations shall be verified by comparing their response to independently prepared materials (independently prepared in this case means prepared from pure components by a different analyst).

3.3. Surrogate Reference Materials

The analyst may use surrogate compounds, e.g., for highly toxic or reactive organic compounds, provided the analyst can demonstrate to the Administrator's satisfaction that the surrogate compound behaves as the analyte. A surrogate may be an isotope or one that contains a unique element (e.g., chlorine) that is not present in the source or a derivative of the toxic or reactive compound, if the derivative formation is part of the method's procedure. Laboratory experiments or literature data may be used to show behavioral acceptability.

3.4. Isotopically Labeled Materials

Isotope mixtures may contain the isotope and the natural analyte. For best results, the isotope labeled analyte concentration should be more than five times the natural concentration of the analyte.

4. EPA PERFORMANCE AUDIT MATERIAL

4.1

To assess the method bias independently, the analyst shall use (in addition to the reference material) an EPA performance audit material, if it is available. The analyst may contact EMTIC (see section 1.1.1) to receive a list of currently available EPA audit materials. If the analyte is listed, the analyst should request the audit material at least 30 days before the validation test If an EPA audit material is not available, request documentation from the validation report reviewing authority that the audit material is currently not available from EPA. Include this documentation with the field validation report

4.2

The analyst shall sample and analyze the performance audit sample three times according to the instructions provided with the audit sample. The analyst shall submit the three results with the field validation report Although no acceptance criteria are set for these performance audit results, the analyst and reviewing authority may use them to assess the relative error of sample recovery, sample preparation, and analytical procedures and then consider the relative error in evaluating the measured emissions.

5. PROCEDURE FOR DETERMINATION OF BIAS AND PRECISION IN THE FIELD

The analyst shall select one of the sampling approaches below to determine the bias and precision of the data. After analyzing the samples, the analyst shall calculate the bias and precision according to the procedure described in section 6.0. When sampling a stationary source, follow the probe placement procedures in Section 5.4.

5.1 Isotopic Spiking

This approach shall be used only for methods that require mass spectrometry (MS) analysis. Bias and precision are calculated by procedures described in Section 6.1.

5.1.1. Number of Samples and Sampling Runs

Collect a total of 12 replicate samples by either obtaining six sets of paired samples or three sets of quadruplet samples.

5.1.2. Spiking Procedure

Spike all 12 samples with the reference material at the level of the standard. Follow the appropriate spiking procedures listed below for the applicable waste medium.

5.1.2.1. Exhaust Gas Testing

The spike shall be introduced as close to the tip of the sampling probe as possible.

5.1.2.1.1. Gaseous Reference Material with Sorbent or Impinger Sampling Trains

Sample the reference material (in the laboratory or in the field) at a concentration, which is close to the allowable concentration standard for the time required by the method, and then sample the gas stream for an equal amount of time. The time for sampling both the reference material and gas stream should be equal; however, the time should be adjusted to avoid sorbent breakthrough.

5.1.2.1.2. Gaseous Reference Material with Sample Container (Bag or Canister)

Spike the sample containers after completion of each test run with an amount equal to the allowable concentration standard of the emission point The final concentration of the reference material shall approximate the level of the emission concentration in the stack. The volume amount of reference material shall be less than 10 percent of the sample volume.

5.1.2.1.3. Liquid and Solid Reference Material with Sorbent or Impinger Trains

Spike the trains with an amount equal to the allowable concentration standard before sampling the stack gas. The spiking should be done in the field; however, it may be done in the laboratory.

5.1.2.1.4. Liquid and Solid Reference Material with Sample Container (Bag or Canister)

Spike the containers at the completion of each test run with an amount equal to the level of the emission standard.

5.1.2.2. Other Waste Media

Spike the 12 replicate samples with the reference material either before or directly after sampling in the field.

5.2. Comparison Against a Validated Test Method

Bias and precision are calculated using the procedures described in Section 6.2. This approach shall be used when a validated method is available and an alternative method is being proposed.

5.2.1. Number of Samples and Sampling Runs

Collect nine sets of replicate samples using a paired sampling system (a total of 18 samples) or four sets of replicate samples using a quadruplet sampling system (a total of 16 samples). In each sample set, the validated test method shall be used to collect and analyze half of the samples.

5.2.2. Performance Audit Exception

Conduct the performance audit as required in Section 4.0 for the validated test method. Conducting a performance audit on the test method being evaluated is recommended.

5.3. Analyte Spiking

This approach shall be used when Sections 5.1 and 5.2 are not applicable. Bias and precision are calculated using the procedures described in Section 6.3.

5.3.1. Number of Samples and Sampling Runs

Collect a total of 24 samples using the quadruplet sampling system (a total of 6 sets of replicate samples).

5.3.2

In each quadruplet set, spike half of the samples (two out of the four) with the reference material according to the applicable procedure in Section 5.1.2.1 or 5.1.2.2.

5.4. Probe Placement and Arrangement For Stationary Source Stack or Duct Sampling

The probes shall be placed in the same horizontal plane. For paired sample probes the arrangement should be that the probe tip is 2.5 cm from the outside edge of the other with a pitot tube on the outside of each probe. Other paired arrangements for the pitot tube may be acceptable. For quadruplet sampling probes, the tips should be in a 6.0 cm x 6.0 cm square area measured from the center line of the opening of the probe tip with a single pitot tube in the center or two pitot tubes with their location on either side of the probe tip configuration. An alternative arrangement should be proposed whenever the cross-sectional area of the probe tip configuration is approximately 5 percent of the stack or duct cross-sectional area.

6. CALCULATIONS

Data resulting from the procedures specified in Section 5.0 shall be treated as follows to determine bias, correction factors, relative standard deviations, precision, and data acceptance.

6.1. Isotopic Spiking

Analyze the data for isotopic spiking tests as outlined in Sections 6.1.1 through 6.1.6.

6.1.1

Calculate the numerical value of the bias using the results from the analysis of the isotopically spiked field samples and the calculated value of the isotopically labeled spike:

Eq.301-1

$$B = CS - S_m$$

where:

B = Bias at the spike level.

S_m = Mean of the measured values of the isotopically spiked samples.

CS = Calculated value of the isotopically labeled spike.

6.1.2.

Calculate the standard deviation of the S-values as follows:

Eq. 301-2

$$SD = \sqrt{\frac{S_{(Si-Sm)2}}{(n-1)}}$$

where:

S_i = Measured value of the isotopically labeled analyte in the ith field sample,

n = Number of isotopically spiked samples, 12.

6.1.3.

Calculate the standard deviation of the mean (SDM) as follows:

Eq. 301-3

$$SDM = \sqrt{\frac{SD}{n}}$$

6.1.4.

Test the bias for statistical significance by calculating the t-statistic,

Eq. 301-4

$$t = \frac{|B|}{SDM}$$

and compare it with the critical value of the two-sided t-distribution at the 95-percent confidence level and n-1 degrees of freedom. This critical value is 2.201 for the eleven degrees of freedom when the procedure specified in Section 5.1.2 is followed. If the calculated t-value is greater than the critical value the bias is statistically significant and the analyst should proceed to evaluate the correction factor.

6.1.5. Calculation of a Correction Factor

If the t-test does not show that the bias is statistically significant, use all analytical results without correction and proceed to the precision evaluation. If the method's bias is statistically significant, calculate the correction factor, CF, using the following equation:

Eq. 301-5

$$CF = \frac{1}{1 + \frac{B}{CS}}$$

If the CF is outside the range of 0.70 to 1.30, the data and method are considered unacceptable. For correction factors within the range, multiply all analytical results by the CF to obtain the final values.

6.1.6. Calculation of the Relative Standard Deviation (Precision)

Calculate the relative standard deviation as follows:

Eq. 301-6

$$RSD = \left\{ \frac{SD}{S_m} \right\} ¼ 100$$

where S_m is the measured mean of the isotopically labeled spiked samples.

6.2. Comparison with Validated Method

Analyze the data for comparison with a validated method as outlined in Sections 6.2.1 or 6.2.2, as appropriate. Conduct these procedures in order to determine if a proposed method produces

result equivalent to a validated method. Make all necessary bias corrections for the validated method, as appropriate. If the proposed method fails either test, the method results are unacceptable, and conclude that the proposed method is not as precise or accurate as the validated method. For highly variable sources, additional precision checks may be necessary. The analyst should consult with the Administrate if a highly variable source is suspected.

6.2.1. Paired Sampling Systems.

6.2.1.1. Precision

Determine the acceptance of the proposed method's variance with respect to the variability of the validated method results. If a significant difference is determined, the proposed method and the result: are rejected. Proposed methods demonstrating F-values equal to or less than the critical value have acceptable precision.

6.2.1.2.. Calculate the variance of the proposed method, S_p^2, and the variance of the validated method, S_v^2, using the following equation:

Eq. 301-7

$$S^2_{(p\ or\ v)} = SD^2$$

where:

SD_v = Standard deviation provided with the validated method,

SD_p = Standard deviation of the proposed method calculated using Equation 301-9a.

6.2.1.3. The F-test

Determine if the variance of the proposed method is significantly different from that of the validate method by calculating the F-value using the following equation:

Eq. 301-8

$$F = \frac{S_p^2}{S_v^2}$$

Compare the experimental F value with the critical value of F. The critical value is 1.0 when the procedure specified in section 5.2.1 for paired trains is followed. If the calculated F is greater than the critical value, the difference in precision is significant and the data and proposed method are unacceptable.

6.2.1.4. Bias Analysis

Test the bias for statistical significance by calculating the t-statistic and determine if the mean of the differences between the proposed method and the validated method is significant at the 80-percent confidence level. This procedure requires the standard deviation of the validated method, SD_v, to be known. Employ the value furnished with the method. If the standard deviation of the validated method is not available, the paired replicate sampling procedure may not be used. Determine the mean of the paired sample differences, dm, and the

standard deviation, SD_d, of the differences, d_i's, using Equation 301-2 where: d_i replaces S_i, dm replaces S_m. Calculate the standard deviation of the proposed method, SD_p, as follows:

Eq. 301-9a

$$SD_p = SD_d \; SD_v$$

(If $SD_v > SD_d$, let $SD = SD_d/1.414$).

Calculate the value of the t-statistic using the following equation:

Eq. 301-9

$$t = \left\{ \frac{d_m}{\frac{SD_p}{\sqrt{n}}} \right\}$$

where n is the total number of paired samples. For the procedure in Section 5.2.1, n equals nine. Compare the calculated t-statistic with the corresponding value from the table of the t-statistic. When nine runs are conducted, as specified in Section 5.2.1, the critical value of the t-statistic is 1.397 for eight degrees of freedom. If the calculated t-value is greater than the critical value the bias *is* statistically significant and the analyst should proceed to evaluate the correction factor.

6.2.1.5. Calculation of a Correction Factor.

If the statistical test cited above does not show a significant bias with respect to the reference method, assume that the proposed method is unbiased and use all analytical results without correction. If the method's bias is statistically significant, calculate the correction factor, CF, as follows:

Eq. 301-10

$$CF = \frac{1}{1 + \frac{d_m}{V_m}}$$

where V_m is the mean of the validated method's values. Multiply all analytical results by CF to obtain the final values. The method results, and the method, are unacceptable if the correction factor is outside the range of 0.9 to 1.10.

6.2.2. Quadruplet Replicate Sampling Systems.

6.2.2.1. Precision.

Determine the acceptance of the proposed method's variance with respect to the variability of the validated method results. If a significant difference is determined the proposed method and the results are rejected.

6.2.2.2. Calculate the variance of the proposed method, S_p^2, using the following equation:

Eq. 301-11

$$S2 = \frac{å\, d_i^2}{2n}$$

where the d_i's are the differences between the validated method values and the proposed method values.

6.2.2.3. The F-test

Determine if the variance of the proposed method is more variable than that of the validated method by calculating the F-value using Equation 301-8. Compare the experimental F value with the critical value of F. The critical value is 1.0 when the procedure specified in section 5.2.2 for quadruplet trains is followed. The calculated F should be less than or equal to the critical value. If the difference in precision is significant the results and the proposed method are unacceptable.

6.2.2.4. Bias Analysis.

Test the bias for statistical significance at the 80 percent confidence level by calculating the t-statistic. Determine the bias (mean of the differences between the proposed method and the validated method, d_m) and the standard deviation, SDd, of the differences. Calculate the standard deviation of the differences, SD_d, using Equation 301-2 and substituting d_i for S_i. The following equation is used to calculate d_i:

Eq. 301-12

$$d_i = \frac{(V_{1i} + V_{2i})}{2} + \frac{(P_{1i} + P_{2i})}{2}$$

and: V_{1i} = First measured value of the validated method in the ith test sample.

P_{1i} = First measured value of the proposed method in the ith test sample.

Calculate the t-statistic using Equation 301-9 where n is the total number of test sample differences (d_i). For the procedure in Section 5.2.2, n equals four. Compare the calculated t-statistic with the corresponding value from die table of the t-statistic and determine if the mean is significant at the 80-percent confidence level. When four runs are conducted, as specified in Section 5.2.2, the critical value of the t-statistic is 1.638 for three degrees of freedom. If the calculated t-value is greater than the critical value the bias is statistically significant and the analyst should proceed to evaluate the correction factor.

6.2.2.5. Correction Factor Calculation.

If the method's bias is statistically significant, calculate the correction factor, CF, using Equation 301-10. Multiply all analytical results by CF to obtain the final

values. The method results, and the method, are unacceptable if the correction factor is outside the range of 0.9 to 1.10.

6.3. Analyte Spiking.

Analyze the data for analyze spike testing as outlined in Sections 6.3.1 through 6.3.3.

6.3.1. Precision.

6.3.1.1. Spiked Samples.

Calculate the difference, d_i, between the pairs of the spiked proposed method measurements for each replicate sample set. Determine the standard deviation (SD_s) of the spiked values using the following equation:

Eq. 301-13

$$S2_s = \sqrt{\frac{\sum d^2}{2n}}$$

where: n = Number of runs.

Calculate the relative standard deviation of the proposed spiked method using Equation 301-6 where S_m is the measured mean of the analyte-spiked samples. The proposed method is unacceptable if the RSD is greater than 50 percent

6.3.1.2. Unspiked Samples.

Calculate the standard deviation of the unspiked values using Equation 301-13 and the relative standard deviation of the proposed unspiked method using Equation 301-6 where S_m is the measured mean of the analyte spiked samples. The RSD must be less than 50 percent

6.3.2. Bias.

Calculate the numerical value of the bias using the results from the analysis of the spiked field samples, the unspiked field samples, and the calculated value of the spike:

Eq. 301-14

$$B = S_m - M_m - CS$$

where:

B	=	Bias at the spike level.
S_m	=	Mean of the spiked samples.
M_m	=	Mean of the unspiked samples.

CS = Calculated value of the spiked level.

6.3.2.1. Calculate the standard deviation of the mean using the following equation where SD_s and: SD_u are the standard deviations of the spiked and unspiked sample values respectively as calculated using Equation 301-13.

Eq. 301-15

$$SD = \sqrt{SD_s^2 + SD_u^2}$$

Eq._301-15.jpg6.3.2.2. Test the bias for statistical significance by calculating the t-statistic using Equation 301-4 and comparing it with the critical value of the two-sided t-distribution at the 95-percent confidence level and n-1 degrees of freedom. This critical value is 2.201 for the eleven degrees of freedom.

6.3.3. Calculation of a Correction Factor.

If the t-test shows that the bias is not statistically significant, use all analytical results without correction. If the method's bias is statistically significant, calculate the correction factor using Equation 301-5. Multiply all analytical results by CF to obtain the final values.

7. RUGGEDNESS TESTING (OPTIONAL)

7.1. Laboratory Evaluation.

7.1.1. Ruggedness testing is a useful and cost-effective laboratory study to determine the sensitivity of a method to certain parameters such as sample collection rate, interferant concentration, collecting medium temperature, or sample recovery temperature. This Section generally discusses the principle of the ruggedness test A more detailed description is presented in citation 10 of Section 13.0.

7.1.2. In a ruggedness test, several variables are changed simultaneously rather than one variable at a time. This reduces the number of experiments required to evaluate the effect of a variable. For example, the effect of seven variables can be determined in eight experiments rather than 128 (W.J. Youden, Statistical Manual of the Association of Official Analytical Chemists, Association of Official Analytical Chemists, Washington, DC, 1975, pp. 33-36).

7.1.3. Data from ruggedness tests are helpful in extending the applicability of a test method to different source concentrations or source categories.

8. PROCEDURE FOR INCLUDING SAMPLE STABILITY IN BIAS AND PRECISION EVALUATIONS

8.1. Sample Stability.

8.1.1. The test method being evaluated must include procedures for sample storage and the time within which the collected samples shall be analyzed.

8.1.2. This Section identifies the procedures for including the effect of storage time in bias and precision evaluations. The evaluation may be deleted if the test method specifies a time for sample storage.

8.2. Stability Test Design.

The following procedures shall be conducted to identify the effect of storage times on analyte samples. Store the samples according to the procedure specified in the test method. When using the analyte spiking procedures (Section 5.3), the study should include equal numbers of spiked and unspiked samples.

8.2.1. Stack Emission Testing.

8.2.1.1. For sample container (bag or canister) and impinger sampling systems, Sections 5.1 and 53, analyze six of the samples at the minimum storage time. Then analyze the same six samples at the maximum storage time.

8.2.1.2. For sorbent and impinger sampling systems, Sections 5.1 and 5.3, that require extraction or digestion, extract or digest six of the samples at the minimum storage time and extract or digest six other samples at the maximum storage time. Analyze an aliquot of the first six extracts (digestates) at both the minimum and maximum storage times. This will provide some freedom to analyze extract storage impacts.

8.2.1.3. For sorbent sampling systems, Sections 5.1 and 5.3, that require thermal desorption, analyze six samples at the minimum storage time. Analyze another set of six samples at the maximum storage time.

8.2.1.4. For systems set up in accordance with Section 5.2, the number of samples analyzed at the minimum and maximum storage times shall be half those collected (8 or 9). The procedures for samples requiring extraction or digestion should parallel those in Section 8.2.1.

8.2.2. Other Waste Media Testing.

Analyze half of the replicate samples at the minimum storage time and the other half at the maximum storage time in order to identify the effect of storage times on analyte samples.

9. PROCEDURE FOR DETERMINATION OF PRACTICAL LIMIT OF QUANTITATION (OPTIONAL)

9.1. Practical Limit of Quantitation.

9.1.1. The practical limit of quantitation (PLQ) is the lowest level above which quantitative results may be obtained with an acceptable degree of confidence. For this protocol, the PLQ is defined as 10 times the standard deviation, S_O, at the blank level This PLQ corresponds to an uncertainty of ±30 percent at the 99-percent confidence level.

9.1.2. The PLQ will be used to establish the lower limit of the test method.

9.2. Procedure I for Estimating S_O.

This procedure is acceptable if the estimated PLQ is no more than twice the calculated PLQ. If the PLQ is greater than twice the calculated PLQ use Procedure II.

9.2.1. Estimate the PLQ and prepare a test standard at this level. The test standard could consist of a dilution of the reference material described in Section 3.0.

~~9.2.1.~~9.2.2. Using the normal sampling and analytical procedures for the method, sample and analyze this standard at least seven times in the laboratory.

9.2.3. Calculate the standard deviation, S_O, of the measured values.

9.2.4. Calculate the PLQ as 10 times S_O.

9.3. Procedure II for Estimating S_O.

This procedure is to be used if the estimated PLQ is more than twice the calculated PLQ.

9.3.1. Prepare two additional standards at concentration levels lower than the standard used in Procedure I.

9.3.2. Sample and analyze each of these standards at least seven times.

9.3.3. Calculate the standard deviation for each concentration level.

9.3.4. Plot the standard deviations of the three test standards as a function of the standard concentrations.

9.3.5. Draw a best-fit straight line through the data points and extrapolate to zero concentration. The standard deviation at zero concentration is S_O.

9.3.6. Calculate the PLQ as 10 times S_O.

10. FIELD VALIDATION REPORT REQUIREMENTS

The field validation report shall include a discussion of the regulatory objectives for the testing which describe the reasons for the test, applicable emission limits, and a description of the source. In addition, validation results shall include:

10.1. Summary of the results and calculations shown in Section 6.0.

10.2. Reference material certification and value(s).

10.3. Performance audit results or letter from the reviewing authority stating the audit material is; currently not available.

10.4. Laboratory demonstration of the quality of the spiking system.

10.5. Discussion of laboratory evaluations.

10.6. Discussion of field sampling.

10.7. Discussion of sample preparations and analysis.

10.8. Storage times of samples (and extracts, if applicable).

10.9. Reasons for eliminating any results.

11. FOLLOWUP TESTING

The correction factor calculated in Section 6.0 shall be used to adjust the sample concentrations in all follow-up tests conducted at the same source. These tests shall consist of at least three replicate samples, and the average shall be used to determine the pollutant concentration. The number of samples to be collected and analyzed shall be as follows, depending on the validated method precision level:

11.1. Validated relative standard deviation (RSD) ± 15 Percent.

Three replicate samples.

11.2. Validated RSD ± 30 Percent.

Six replicate samples.

11.3. Validated RSD ± 50 Percent.

Nine replicate samples.

11.4. Equivalent method.

Three replicate samples.

12. PROCEDURE FOR OBTAINING A WAIVER

12.1. Waivers.

These procedures may be waived or a less rigorous protocol may be granted for site-specific applications. The following are three example situations for which a waiver may be considered.

12.1.1. “Similar” Sources.

If the test method has been validated previously at a “similar” source, the procedures may be waived provided the requester can demonstrate to the satisfaction of the Administrator that the sources are “similar.” The method’s applicability to the “similar” source may be demonstrated by conducting a ruggedness test as described in Section 6.0.

12.1.2. “Documented” Methods.

In some cases, bias and precision may have been documented through laboratory tests or protocols different from this method. If the analyst can demonstrate to the satisfaction of the Administrator that the bias and precision apply to a particular application, the Administrator may waive these procedures or parts of the procedures.

12.1.3. “Conditional” Test Methods.

When the method has been demonstrated to be valid at several sources, the analyst may seek a “conditional” method designation from the Administrator. “Conditional” method status provides an automatic waiver from the procedures provided the test method is used within the stated applicability.

12.2. Application for Waiver.

In general, the requester shall provide a thorough description of the test method, the intended application, and results of any validation or other supporting documents. Because of the many potential situations in which the Administrator may grant a waiver, it is neither possible nor

desirable to prescribe the exact criteria for a waiver. At a minimum, the requester is responsible for providing the following.

12.2.1. A clearly written test method, preferably in the format of 40 CFR 60, Appendix A Test Methods. The method must include an applicability statement, concentration range, precision, bias (accuracy), and time in which samples must be analyzed.

12.2.2.2. Summaries (see Section 10.0) of previous validation tests or other support documents. If a different procedure from that described in this method was used, the requester shall provide appropriate documents substantiating (to the satisfaction of the Administrator) the bias and precision values.

12.2.2.3. Results of testing conducted with respect to Sections 7.0, 8.0, and 9.0.

12.2.3. Discussion of the applicability statement and arguments for approval of the waiver. This discussion should address as applicable the following: Applicable regulation, emission standards, effluent characteristics, and process operations.

12.3. Requests for Waiver.

Each request shall be in writing and signed by the analyst. Submit requests to the Director, OAQPS, Technical Support Division, U.S. Environmental Protection Agency, and Research Triangle Park, NC 27711.

PART E. Federal Maximum Achievable Control Technology (MACT)

I. General Provisions

The provisions of Part 63, Chapter I, Title 40, of the Code of Federal Regulations (CFR), promulgated by the U.S. Environmental Protection Agency listed in this section are hereby incorporated by reference by the Air Quality Control Commission and made a part of the Colorado Air Quality Control Commission Regulations. Materials incorporated by reference are those in existence as of the dates indicated and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80246, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission.

For the purpose of this section of this regulation, the word "Administrator" as used in the C.F.R. shall mean the Colorado Air Pollution Control Division. References to 40 CFR part 70 or operating permit issuance shall relate to the Colorado Operating Permit program contained in Colorado Regulation No. 3, Parts A and C. Operating permits issued under these general provisions shall be issued by the Colorado Air Pollution Control Division under Colorado Regulation No. 3, Parts A and C. The phrases "HAP", "HAPs" or "listed HAPs" shall mean those substances listed in Colorado Regulation No. 3, Appendix B.

Subpart A National Emission Standards for Hazardous Air Pollutants for Source Categories: General Provisions, 40 CFR Part 63 (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

For the purpose of this subpart A, the term “performance track member” shall mean a stationary source that is a member of both the U.S. Environmental Protection Agency’s National Environmental Performance Track and the Colorado Department of Public Health and Environment’s Environmental Leadership Program at the gold-level or higher.

II. Reserved

III. Federal Maximum Achievable Control Technology

The regulations promulgated by the U. S. Environmental Protection Agency listed in this section are hereby incorporated by reference by the Air Quality Control Commission and made a part of the Colorado Air Quality Control Commission Regulations. Materials incorporated by reference are those in existence as of the dates indicated and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80246, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission.

"Administrator" as used in the C. F. R. shall mean the Colorado Air Pollution Control Division.

III.A. National Emission Standards for Hazardous Air Pollutants for Source Categories: Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry and Other Processes Subject to the Negotiated Regulation for Equipment Leaks, 40 C. F. R. Part 63, Subparts F, G, H, and I (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.B. National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities, 40 C. F. R. Part 63, Subpart M July 1, 2008 and as amended on July 11, 2008 (73FR39871). The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart M to obtain a Regulation No. 3, Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is permanently exempted from submitting an application for such permit as of December 19, 2005 (70 FR 75319).

III.C. National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning, 40 C.F.R. Part 63, Subpart T (July 1, 2008). The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart T to obtain a Regulation No. 3, Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is permanently exempted from submitting an application for such permit as of December 19, 2005 (70 FR 75319).

III.D. National Emission Standards for Hazardous Air Pollutants for Ethylene Oxide Sterilization and Fumigation Operations, 40 C.F.R. Part 63, Subpart O (July 1, 2008). The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart O to obtain a Regulation No. 3, Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is permanently exempted from submitting an application for such permit as of December 19, 2005 (70 FR 75319).

III.E. National Emission Standards for Hazardous Air Pollutants Final Standards for Hazardous Air Pollutant Emissions from Magnetic Tape Manufacturing Operations, 40 C.F.R. Part 63, Subpart EE (July 1, 2008).

III.F. National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks, 40 C.F.R. Part 63, Subpart N (July 1, 2008). The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart N to obtain a Regulation No. 3, Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is permanently exempted from submitting an application for such permit as of December 19, 2005 (70 FR 75319).

III.G. National Emissions Standards for Hazardous Air Pollutants: Epoxy Resins Production and Non-Nylon Polyamides Production, 40 C.F.R. Part 63, Subpart W (July 1, 2008).

III.H. National Emissions Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers, 40 C.F.R. Part 63, Subpart Q (July 1, 2008).

III.I. National Emissions Standards for Hazardous Air Pollutants from Secondary Lead Smelting, 40 C.F.R. Part 63, Subpart X (July 1, 2008). The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart X to obtain a Regulation No. 3, Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is deferred from submitting an application for such permit until December 9, 2005.

III.J. National Emission Standards for Hazardous Air Pollutants for Source Categories: Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations), 40 C.F.R. Part 63, Subpart R (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.K. National Emission Standards for Hazardous Air Pollutants: Petroleum Refineries, 40 C.F.R. Part 63, Subpart CC (July 1, 2008).

III.L. National Emission Standards for Hazardous Air Pollutants for Source Categories: Aerospace Manufacturing and Rework Facilities, 40 C.F.R. Part 63, Subpart GG (July 1, 2008).

III.M. National Emission Standards for Hazardous Air Pollutants: Wood Furniture Manufacturing Operations, 40 C.F.R. Part 63, Subpart JJ (July 1, 2008).

III.N. National Emission Standards for Hazardous Air Pollutants: Shipbuilding and Ship Repair, 40 C.F.R. Part 63, Subpart II (July 1, 2008).

III.O. National Emission Standards for Hazardous Air Pollutants: Printing and Publishing Industry, 40 C.F.R. Part 63, Subpart KK (July 1, 2008).

III.P. National Emission Standards for Hazardous Air Pollutants: Group 1 Polymers and Resins, 40 C.F.R. Part 63, Subpart U (July 1, 2008).

III.Q. National Emission Standards for Hazardous Air Pollutants: Group IV Polymers and Resins, 40 C.F.R. Part 63, Subpart JJJ (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.R. National Emission Standards for Hazardous Air Pollutants: Off-Site Waste and Recovery Operations, 40 C.F.R. Part 63, Subpart DD (July 1, 2008).

III.S. National Emission Standards for Hazardous Air Pollutants for Source Category: Pulp and Paper Production, 40 C.F.R. Part 63, Subpart S (July 1, 2008).

III.T. National Emission Standards for Hazardous Air Pollutants for Source Category: Primary Aluminum Reduction Plants, 40 C.F.R. Part 63, Subpart LL (July 1, 2008).

III.U. National Emission Standards for Hazardous Air Pollutants for Source Category: Pharmaceuticals Production, 40 C.F.R. Part 63, Subpart GGG (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.V. National Emission Standards for Hazardous Air Pollutants for Source Category: Flexible Polyurethane Foam Production, 40 C.F.R. Part 63, Subpart III (July 1, 2008).

III.W. National Emission Standards for Tanks - Level 1, 40 C.F.R., Part 63, Subpart OO (July 1, 2008).

III.X. National Emission Standards for Containers, 40 C.F.R., Part 63, Subpart PP (July 1, 2008).

III.Y. National Emission Standards for Hazardous Air Pollutants for Source Category: Phosphoric Acid Manufacturing and Phosphate Fertilizers Production, 40 C.F.R. Part 63, Subpart AA (July 1, 2008).

III.Z. National Emission Standards for Hazardous Air Pollutants for Source Category: Oil and Natural Gas Production and Natural Gas Transmission and Storage, 40 C.F.R. Part 63, Subparts HH and HHH (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.AA. National Emission Standards for Hazardous Air Pollutants for Source Category: Generic Maximum Achievable Control Technology Standard for Acetal Resins Production, Acrylic and Modacrylic Fiber Production, Hydrogen Fluoride Production, and Polycarbonate(s) Production, 40 C.F.R. Part 63, Subpart YY (July 1, 2008).

III.BB. National Emission Standards for Hazardous Air Pollutants for Source Category: Steel Pickling-HCL Process Facilities and Hydrochloric Acid Regeneration Plants, 40 C.F.R. Part 63, Subpart CCC (July 1, 2008).

III.CC. National Emission Standards for Hazardous Air Pollutants for Source Category: Mineral Wool Production, 40 C.F.R. Part 63, Subpart DDD (July 1, 2008).

III.DD. National Emission Standards for Hazardous Air Pollutants for Source Category: Portland Cement Manufacturing, 40 C.F.R. Part 63, Subpart LLL (July 1, 2008).

III.EE. National Emission Standards for Hazardous Air Pollutants for Source Category: Pesticide Active Ingredient Production, 40 C.F.R. Part 63, Subpart MMM (July 1, 2008).

III.FF. National Emission Standards for Hazardous Air Pollutants for Source Category: Wool Fiberglass Manufacturing, 40 C.F.R. Part 63, Subpart NNN (July 1, 2008).

III.GG. National Emission Standards for Hazardous Air Pollutants for Source Category: Polyether Polyols Production, 40 C.F.R. Part 63, Subpart PPP (July 1, 2008).

III.HH. National Emission Standards for Hazardous Air Pollutants for Source Category: Primary Lead Smelting, 40 C.F.R. Part 63, Subpart TTT (July 1, 2008).

III.II. National Emission Standards for Hazardous Air Pollutants for Source Category: Ferroalloys Production: Ferromanganese and Silicomanganese, 40 C.F.R. Part 63, Subpart XXX (July 1, 2008).

III.JJ. National Emission Standards for Hazardous Air Pollutants for Source Category: Hazardous Waste Combustors, 40 C.F.R. Part 63, Subpart EEE (July 1, 2008).

III.KK. National Emission Standards for Hazardous Air Pollutants for Source Category: Publicly Owned Treatment Works, 40 C.F.R. Part 63, Subpart VVV (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.LL. National Emission Standards for Hazardous Air Pollutants for Source Category: Amino/Phenolic Resins Production, 40 C.F.R. Part 63, Subpart OOO (July 1, 2008).

III.MM. National Emission Standards for Hazardous Air Pollutants for Source Category: Secondary Aluminum Production, 40 C.F.R. Part 63, Subpart RRR (July 1, 2007 The owner or operator of any source required pursuant to 40 C.F.R. Part 63, Subpart RRR to obtain a Regulation No. 3., Part C Operating Permit, if not a major source or located at a major source as that term is defined at 40 C.F.R. Part 70.2, is permanently exempted from submitting an application for such permit as of December 19, 2005 (70 FR 75319).

III.NN. National Emission Standards for Hazardous Air Pollutants for Source Category: Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills, 40 C.F.R. Part 63, Subpart MM (July 1, 2008).

III.OO. National Emission Standards for Hazardous Air Pollutants for Source Category: Solvent Extraction for Vegetable Oil Production, 40 C.F.R. Part 63, Subpart GGGG (July 1, 2008).

III.PP. National Emission Standards for Hazardous Air Pollutants for Source Category: Manufacturing of Nutritional Yeast, 40 C.F.R. Part 63, Subpart CCCC (July 1, 2008).

III.QQ. National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing, 40 C.F.R. Part 63, Subpart VVVV (July 1, 2008).

III.RR. National Emission Standards for Hazardous Air Pollutants for Leather Finishing Operations, 40 C.F.R. Part 63, Subpart TTTT (July 1, 2008).

III.SS. National Emission Standards for Ethylene Manufacturing Process Units: Heat Exchange Systems and Waste Operations, 40 C.F.R. Part 63, Subpart XX (July 1, 2008).

III.TT. National Emission Standards for Hazardous Air Pollutants for Catalytic Cracking Units, Catalytic Reforming Units and Sulfur Plants at Petroleum Refineries, 40 C.F.R. Part 63, Subpart UUU (July 1, 2008).

III.UU. National Emission Standards for Hazardous Air Pollutants for Wet Formed Fiberglass Mat Production, 40 C.F.R. Part 63, Subpart HHHH (July 1, 2008).

III.VV. National Emission Standards for Hazardous Air Pollutants for Cellulose Production Manufacturing, 40 C.F.R. Part 63, Subpart UUUU (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.WW. National Emission Standards for Hazardous Air Pollutants for Large Appliance Manufacturing, 40 C.F.R. Part 63, Subpart NNNN (July 1, 2008).

III.XX. National Emission Standards for Hazardous Air Pollutants for Surface Coating of Metal Coil, 40 C.F.R. Part 63, Subpart SSSS (July 1, 2008).

III.YY. National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production, 40 C.F.R. Part 63, Subpart J (July 1, 2008).

III.ZZ. National Emission Standards for Hazardous Air Pollutants for Primary Copper, 40 C.F.R. Part 63, Subpart QQQ (July 1, 2008).

III.AAA. National Emission Standards for Hazardous Air Pollutants for Tire Manufacturing, 40 C.F.R. Part 63, Subpart XXXX (July 1, 2008).

III.BBB. National Emission Standards for Hazardous Air Pollutants for Friction Materials Manufacturing Facilities, 40 C.F.R. Part 63, Subpart QQQQQ (July 1, 2008).

III.CCC. National Emission Standards for Hazardous Air Pollutants for Paper and Other Web Coating, 40 C.F.R. Part 63, Subpart JJJJ (July 1, 2008).

III.DDD. National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills, 40 C.F.R. Part 63, Subpart AAAA (July 1, 2008).

III.EEE. National Emission Standards for Hazardous Air Pollutants for Printing, Coating, and Dyeing of Fabrics and Other Textiles, 40 C.F.R. Part 63, Subpart OOOO (July 1, 2008).

III.FFF. National Emission Standards for Hazardous Air Pollutants for Surface Coating of Wood Building Products, 40 C.F.R. Part 63, Subpart QQQQ (July 1, 2008).

III.GGG. National Emission Standards for Hazardous Air Pollutants for Surface Coating of Metal Furniture, 40 C.F.R. Part 63, Subpart RRRR (July 1, 2008).

III.HHH. National Emission Standards for Hazardous Air Pollutants for Semiconductor Manufacturing, 40 C.F.R. Part 63, Subpart BBBBB (July 1, 2008) and as amended on December 22, 2008 (73FR42529).

III.III. National Emission Standards for Hazardous Air Pollutants for Coke Ovens: Pushing, Quenching, and Battery Stacks, 40 C.F.R. Part 63, Subpart CCCCC (July 1, 2008).

III.JJJ. National Emission Standards for Hazardous Air Pollutants for Integrated Iron and Steel Manufacturing, 40 C.F.R. Part 63, Subpart FFFFF (July 1, 2008).

III.KKK. Repealed - Reserved for National Emission Standards for Hazardous Air Pollutants for Brick and Structural Clay Manufacturing, 40 C.F.R. Part 63, Subpart JJJJJ. This federal rule was vacated by a March 13, 2007 decision of the U.S. Court of Appeals for the District of Columbia Circuit.

III.LLL. Repealed - Reserved for National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing, 40 C.F.R. Part 63, Subpart KKKKK This federal rule was vacated by a March 13, 2007 decision of the U.S. Court of Appeals for the District of Columbia Circuit.

III.MMM. National Emission Standards for Hazardous Air Pollutants for Asphalt Processing and Asphalt Roofing Manufacturing, 40 C.F.R. Part 63, Subpart LLLLL (July 1, 2008).

III.NNN. National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Fabrication, 40 C.F.R. Part 63, Subpart MMMMM (July 1, 2008).

III.OOO. National Emission Standards for Hazardous Air Pollutants for Hydrochloric Acid Production, 40 C.F.R. Part 63, Subpart NNNNN (July 1, 2008).

III.PPP. National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Stands, 40 C.F.R. Part 63, Subpart PPPPP (July 1, 2008).

III.QQQ. National Emission Standards for Hazardous Air Pollutants for Refractory Products Manufacturing, 40 C.F.R. Part 63, Subpart SSSSS (July 1, 2008).

III.RRR. National Emission Standards for Hazardous Air Pollutants for Reinforced Plastic Composites Production, 40 C.F.R. Part 63, Subpart WWWW (July 1, 2008).

III.SSS. National Emission Standards for Hazardous Air Pollutants: Site Remediation, 40 C.F.R. Part 63, Subpart GGGGG (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.TTT. National Emissions Standards for Hazardous Air Pollutants for Primary Magnesium Refining, 40 C.F.R. Part 63, Subpart TTTTT (July 1, 2008).

III.UUU. National Emission Standards for Hazardous Air Pollutants: Taconite Iron Ore Processing, 40 C.F.R. Part 63, Subpart RRRRR (July 1, 2008).

III.VVV. National Emissions Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing, 40 C.F.R. Part 63, Subpart FFFF (July 1, 2008) and as amended on December 22, 2008 (73FR78199).

III.WWW. National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Metal Cans, 40 C.F.R. Part 63, Subpart KKKK (July 1, 2008).

III.XXX. National Emissions Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing, 40 C.F.R. Part 63, Subpart HHHHH (July 1, 2008).

III.YYY. National Emissions Standards for Hazardous Air Pollutants: Mercury Emissions from Mercury Cell Chlor-Alkali Plants, 40 C.F.R. Part 63, Subpart IIIII (July 1, 2008).

III.ZZZ. National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Miscellaneous Metal Parts and Products, 40 C.F.R. Part 63, Subpart MMMM (July 1, 2008).

III.AAAA. National Emissions Standards for Hazardous Air Pollutants for Lime Manufacturing Plants, 40 C.F.R. Part 63, Subpart AAAAA (July 1, 2008).

III.BBBB. National Emissions Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), 40 C.F.R. Part 63, Subpart EEEE (July 1, 2008) and as amended on July 17, 2008 (73FR40977 and December 22, 2008 (73FR78199).

III.CCCC. National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks, 40 C.F.R. Part 63, Subpart IIII (July 1, 2008).

III.DDDD. National Emissions Standards for Hazardous Air Pollutants: Surface Coating of Plastic Parts and Products, 40 C.F.R. Part 63, Subpart PPPP (July 1, 2008).

III.EEEE. National Emissions Standards for Hazardous Air Pollutants for Stationary Combustion Turbines, 40 C.F.R. Part 63, Subpart YYYY (July 1, 2008).

III.FFFF. National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 C.F.R. Part 63, Subpart ZZZZ (July 1, 2007).

III.GGGG. National Emissions Standards for Hazardous Air Pollutants for Iron and Steel Foundries, 40 C.F.R. Part 63, Subpart EEEEE (July 1, 2008).

III.HHHH. National Emissions Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products, 40 C.F.R. Part 63, Subpart DDDD (July 1, 2008).

III.IIII. Repealed - Reserved for National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 C.F.R. Part 63,

Subpart DDDDD This federal rule was vacated by a June 8, 2007 decision of the U.S. Court of Appeals for the District of Columbia Circuit.

III.JJJJ. National Emission Standards for Hazardous Air Pollutants: Secondary Copper Smelting, 40 C.F.R. Part 63, Subpart FFFFFF (July 1, 2008).

III. KKKK.National Emission Standards for Hazardous Air Pollutants for Area Sources: Primary Nonferrous Metals: Zinc, Cadmium, and Berylium, 40 C.F.R. Part 63, Subpart GGGGG (July 1, 2008).

III.LLLL. National Emission Standards for Hazardous Air Pollutants for area sources: Acrylic and Modacrylic Fibers Production, 40 C.F.R. Part 63, Subpart LLLLLL (July 1, 2008).

III.MMMM. National Emission Standards for Hazardous Air Pollutants for area sources: Carbon Black Production, 40 C.F.R. Part 63, Subpart MMMMMM (July 1, 2008).

III.NNNN. National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing area sources: Chromium Compounds, 40 C.F.R. Part 63, Subpart NNNNNN (July 1, 2008).

III.OOOO. National Emission Standards for Hazardous Air Pollutants for area sources: Flexible Polyurethane Foam Production and Fabrication, 40 C.F.R. Part 63, Subpart OOOOOO (July 1, 2008).

III.PPPP. National Emission Standards for Hazardous Air Pollutants for area sources: Lead Acid Battery Manufacturing, 40 C.F.R. Part 63, Subpart PPPPPP (July 1, 2008).

III.QQQQ. National Emission Standards for Hazardous Air Pollutants for area sources: Wood Preserving, 40 C.F.R. Part 63, Subpart QQQQQQ (July 1, 2008).

IV. Air Pollution Permits To Limit the Potential to Emit Hazardous Air Pollutants

IV.A. Applicability

IV.A.1. Sources may voluntarily apply for permit conditions to limit the source's potential to emit hazardous air pollutants in accordance with this section IV and the procedural provisions of the Construction or Operating Permit programs in Regulation No. 3.

IV.A.2. Under this section IV, a source may apply for and obtain state-only or federally enforceable permit limits, as appropriate, for selected emissions units or for all units that emit hazardous air pollutants. However, the Division shall not indicate in this permit that the source is exempt from specific provisions of the Federal or state Acts unless all relevant emissions units and pollutants are included in the permit review.

IV.A.3. The Division shall issue permits to limit the potential to emit hazardous air pollutants to applicants who qualify pursuant to this section IV and the procedural provisions of Regulation No. 3.

IV.A.4. A source that has initially avoided regulation as a major source under this regulation or Regulation No. 3 by limiting its potential to emit, but that subsequently

IV.A.4.a. becomes an affected source, as defined in section I of this Regulation, because an applicable standard established pursuant to

section 112 of the Federal Act establishes a lower threshold, shall meet the applicable standard unless it has obtained a reviewed permit that limits its potential to emit below the federally established threshold; or

IV.A.4.b. becomes subject to a standard promulgated under section 25-7-109.3, C.R.S., must meet the applicable standard unless it has obtained a revised permit that limits its potential to emit below the trigger threshold for the Colorado standard.

IV.B. Permits

IV.B.1. The owner or operator of a source with emissions of hazardous air pollutants may apply for a permit under this regulation in order to voluntarily limit hazardous air pollutant emissions below emissions thresholds requested in the application by means of practically enforceable permit conditions.

IV.B.2. The permit shall include practically enforceable permit conditions necessary to limit emissions of hazardous air pollutants below emissions thresholds requested in the application and

IV.B.2.a. operating and maintenance plans for all control equipment and control practices necessary to comply with such permit conditions and

IV.B.2.b. a proposed recordkeeping format for demonstrating compliance on an ongoing basis with such permit conditions.

IV.B.3. All emission limitations, controls, and other requirements that are imposed by the permit shall be at least as stringent as any applicable requirements contained in the Colorado State Implementation Plan or enforceable hereunder; no permit issued under this section IV may waive, or make less stringent, any limitations or requirements that are contained in or issued pursuant to the State Implementation Plan or that are otherwise federally enforceable.

IV.B.4. The permit may include alternative operating scenarios that shall include specific monitoring, recordkeeping, and reporting methods.

IV.C. Permit Application Requirements

IV.C.1. An application for a permit to limit the potential to emit hazardous air pollutants shall be prepared on forms supplied by the Division, which shall be consistent with this section IV.

IV.C.2. The applicant shall furnish all information and data required by the Division to evaluate the permit application and make its preliminary analysis in accordance with this section IV and the procedural provisions of Regulation NO. 3, Part B, including, but not limited to:

IV.C.2.a. an operating and maintenance plan for all control equipment and control practices necessary to limit emissions of hazardous air pollutants below emissions thresholds requested in the application; and

IV.C.2.b. a proposed recordkeeping format for demonstrating compliance on an ongoing basis with permit conditions necessary to limit emissions of hazardous air pollutants below emissions thresholds requested in the application.

IV.C.3. The applicant may propose permit conditions and alternative operating scenarios.

IV.C.4. Emissions calculations or determinations shall include fugitive emissions of federal hazardous air pollutants as defined in Appendix A of this regulation.

IV.C.5. The Division may, for the purpose of assuring state-only or federal and practical enforceability, require additional or different permit conditions than proposed by the permit applicant; however, the applicant may decline to accept the conditions and elect instead to forgo limits on its potential to emit or pursue any right of appeal or other available alternative.

IV.D. Public Participation Requirement

Permits processed under this regulation are subject to the public comment requirements of Regulation No. 3, Part B, section IV.C.

IV.E. If a source qualifies for a permit under this section IV and concurrently qualifies for a permit to limit its potential to emit criteria pollutants under Regulation No. 3, the Division may issue a single permit to achieve both purposes. Nothing herein shall restrict a source's right to obtain a permit under Regulation No. 3, which limits its potential to emit both criteria pollutants and hazardous air pollutants.

IV.F. Modification or Reopening of the Permit

A permit issue pursuant to this section IV does not excuse a source from any obligation to apply for a permit modification or comply with any applicable requirements arising from changed circumstances, unless the permit authorizes the activity or change.

IV.G. Compliance on an ongoing basis

Failure to assure compliance on an ongoing basis with the permit conditions shall be grounds for an enforcement action.

IV.H. Interim Federal Enforceability Procedure (in effect until EPA provides written approval of these rules)

IV.H.1. Until such time as EPA approves the state rules, the source shall comply with this section in order to make the permit federally enforceable.

IV.H.2. After the Division issues a permit to limit the potential to emit hazardous air pollutants to a source that emits federal hazardous air pollutants, the responsible official for the source shall submit to EPA and the Division a written statement on a form supplied by the Division, certifying that the source is in compliance with all permit conditions and that the source accepts Federal and citizen enforcement of the conditions contained in the permit.

IV.H.3. The permit becomes federally enforceable when EPA receives the signed statement required by this section IV.H.

V. Construction or Reconstruction of Major Sources

The regulations promulgated by the U. S. Environmental Protection Agency listed in this section are hereby incorporated by reference by the Air Quality Control Commission and made a part of the Colorado Air Quality Control Commission Regulations. Materials incorporated by reference are those in existence

as of the dates indicated and do not include later amendments. The material incorporated by reference is available for public inspection during regular business hours at the Office of the Commission, located at 4300 Cherry Creek Drive South, Denver, Colorado 80246, or may be examined at any state publications depository library. Parties wishing to inspect these materials should contact the Technical Secretary of the Commission, located at the Office of the Commission.

Hazardous Air Pollutants: Regulations Governing Constructed or Reconstructed Major sources, 40 C.F.R. Part 63, Subpart B - Requirements for Control Technology, December 27, 1996 (61 FR 68384), Effective June 29,1998, and as amended on June 30,1999 (64 FR 35029), and May 25,2000 (65 FR 34010).

Hazardous Air Pollutants: Regulations Governing Case-by-Case Determinations of Equivalent Emission Limitations, 40 C.F.R. Party 63, Subpart B, Table 1 – Requirements for Control Technology, (July 1, 2005) and as amended on July 11, 2005 (70 FR 39662).

VI. Statements of Basis, Specific Statutory Authority and Purpose for Part E

VI.A. September 21,1995 Emergency Rule

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA authority to establish national standards to reduce air toxics from sources that emit such pollutants. The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides the authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(i)(b) and 25-7-109(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Authority for emergency rule making is found in the Colorado Air Quality Control Act, Section 25-7-109.1 provides that the Commission shall have the authority to adopt emergency rules under the rule making procedure. The Commission finds that there is an emergency. This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide a complete operating permits program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

VI.B. November 16,1995 (section III, C-G)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(i)(b) and 25-7-109(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide the Division with the authority to implement MACT standards and incorporate them into permit conditions, as required for a complete operating permit program.

VI.C. December 21,1995 (section III. - National Perchloroethylene Air Emission Standards for Dry Cleaning Facilities)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants.

The Federal MACT for Percholorethylene dry cleaning facilities was originally adopted by the Commission in 1994. Legislative Legal Services in their 1994 review of Colorado regulation identified the adoption of the Dry Cleaning MACT as having an incorrect citation to the Federal Register rather than the Code of Federal Regulations (CFR). Because of this deficiency Regulation No. 8 Part A was allowed to sunset. These changes correct the identified deficiency.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(l)(i)(b) and 25-7-109(2)(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide a complete operating permit program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

VI.D. February 15,1996 (Part E, section III.H and I; Industrial Process Cooling Towers and Secondary Lead Smelting)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants, commonly referred to as MACT standards. Originally this action included the adoption of the Stage I Gasoline Distribution, Aerospace Industrial Process and Rework and Petroleum Refinery MACT standards. The Stage I Gasoline Distribution MACT was removed from this action because the EPA proposed a change in the compliance date from January 1996 to January 1997. At the AQCC meeting in November the Division recommended a delay in adoption to avoid implementing a compliance date that would be more difficult than necessary for sources to comply with. The Aerospace and Petroleum Refinery MACTs were deferred from adoption to allow sources to determine the extent of their use of emissions averaging so that the Division could determine the best method of adoption for these source categories. The AQCC supported

the Division's recommendations, setting the adoption of the Industrial process cooling tower and secondary lead smelting MACT standards for hearing.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(I)(b) and 25-7-109.3 provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 25-7-106 provides the Commission with broad authority to promulgate regulations necessary for an effective program. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will provide the Division with the authority to implement MACT standards and incorporate them into permit conditions, as required for a complete operating permit program.

VI.E. June 20,1996 (Part E, section III.A, J, K, L, M, N)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of air toxics emissions nationwide. Under Title III, section 112 of the Act was amended to give the EPA the authority to establish national control technology-based standards to reduce hazardous air pollutants from sources that emit such pollutants.

The Division requested that the following Federally promulgated MACT standards be adopted by reference into Regulation No. 8, Part E, section III: Hazardous Organic NESHAP (emissions averaging provisions); Stage I Gasoline Distribution; Petroleum Refineries; Aerospace Manufacturing and Rework Industry; Wood Furniture Manufacturing; and Shipbuilding and Ship Repair in order to comply with Operating Permit program requirements.

The Hazardous Organic NESHAP *(HON)* was adopted by reference on June 15,1995, without the emissions averaging provisions. The emissions averaging provisions within the HON is adopted because they provide a flexible alternative for sources, and the averaging provisions are reflected in the Petroleum Refinery standard.

The Commission adopts the codified versions of the HON and the Stage 1 Gasoline Distribution rule within 40 C.F.R. Part 63, which was published on July 1,1995. The Commission also adopts amendments to the HON rule, the Stage 1 Gasoline Distribution rule, the Petroleum Refineries rule, and the Aerospace Manufacturing rule that have been Federally promulgated since the publication of the July 1,1995 C.F.R.

In addition to specific emission control requirements, each of the above standards requires monitoring, recordkeeping, and reporting that is consistent with the General Provisions (July 1,1994,40 C.F.R. Part 63, Chapter 1) adopted by reference by the Commission on November 15,1995.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations that are necessary to implement the

minimum elements of Title V of the Clean Air Act. Sections 25-7-105(l)(b) and 25-7-109(2)(h) and 109(4) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt Federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

This regulation provides Colorado citizens protection from Hazardous Air Pollutants and will ensure compliance with the Operating Permit program and Section 112 of the Federal Act.

VI.F. November 21,1996 (Appendix A for Part E)

This Statement of Basis, Specific Statutory Authority and Purpose comply with the requirements of the Colorado Administrative Procedures Act, section 24-4-103, C.R.S. and the Colorado Air Pollution Prevention and Control Act, section 25-7-110.5, C.R.S.

Basis

Regulations 3, 7 and the Common Provisions establish lists of Negligibly Reactive Volatile Organic Compounds (NRVOCs). The revisions adopted update the list of NRVOCs so that the state list remains consistent with the federal list. Additionally because perchloroethylene will no longer be listed as a VOC in Regulation No. 7, section XII, *Control of VOC Emissions from Dry Cleaning Facilities using Perchloroethylene as a Solvent,* is being deleted.

Regulation No. 8 and 3 list the federal Hazardous Air Pollutants (HAPs). In the June 8, 1996 Federal Register the EPA removed Caprolactam (CAS 105-60-2) from the federal list of Hazardous Air Pollutants. The conforming changes in Regulation No. 3 Appendices B, C and D have been made to keep the list of federal HAPs in Regulation No. 3 consistent with the federal list. The list of HAPs in Regulation No. 8 has been removed and a reference to the list in Regulation No. 3 has been added.

Specific Statutory Authority

The Colorado Air Pollution Prevention and Control Act provide the authority for the Colorado Air Quality Control Commission to adopt and modify Regulations pertaining to organic solvents and photochemical substances. Section 25-7-109(2)(f) and 25-7-109(2)(g), C.R.S., grant the Commission the authority to promulgate regulations pertaining to organic solvents and photochemical substances. Sections 25-7-105(l)(l)(b) and 25-7-109(2)(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. The Commission's action is taken pursuant to authority granted and procedures set forth in sections 25-7-105, 25-7-109, and 25-7-110,C.R.S.

Purpose

These revisions to Regulations No. 3,7, 8 and the Common Provisions are intended to update the state lists of NRVOCs, the Ozone SIP, and HAPs for consistency with the federal lists.

VI.G. February 20,1997 - (Added section III.O, P, Q, R)

Background

Title III of the Clean Air Act Amendments of 1990 was enacted to help reduce the levels of nationwide air toxics emissions. Under Title III, section 112 of the Act was amended to give the EPA the authority to establish national standards to reduce air toxics from sources that emit such pollutants.

The Division in this semi-annual adoption of new MACT standards requests that the Commission set for hearing the adoption of four new standards: Printing and Publishing, Group I Polymers and Resins, Group IV Polymers and Resins and Off-Site Waste and Recovery Operations. The Division also proposes the adoption of several corrections and amendments to previously adopted MACT standards.

The September 19,1996 amendments clarify the compliance dates and status for transfer machines installed between the proposal and promulgation dates of the Perchloroethylene Dry Cleaning MACT.

The June 3,1996 amendments codify the EPA policy deferring minor sources subject to the Ethylene Oxide Sterilization, Chrome Electroplating, and Secondary Lead Smelting MACTs from Operating Permit requirements.

The June 12,1996 amendments correct errors and clarify the regulatory text in the previously adopted Petroleum Refinery MACT.

The June 18,1996 amendments revise compliance dates for sources subject to the Shipbuilding MACT from December 16,1996 to December 16,1997 to allow sources to prepare implementation plans and inventory management systems.

Additionally the Division is correcting the citations of several of the C. F. R. references.

Specific Authority

The specific authority for this regulation is found in the Colorado Air Quality Control Act. Section 25-7-105(12) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Sections 25-7-105(l)(i)(b) and 25-7-109(2)(h) provide authority to adopt emission control regulations and emission control regulations relating to HAPs respectively. Section 24-4-103(12.5) provides authority to adopt federal regulations by reference. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

This regulation provides Colorado citizens protection from Hazardous Air Pollutants AND will provide a complete operating permit program. These changes address issues raised by the Colorado General Assembly Office of Legislative Legal Services.

VI.H. November 20,1997 - (Revised section III., subsections A, I, J, K, L, M, N, P,Q)

To reflect Federal amendments; added a new section V. to incorporate by reference Federal regulations governing the construction and reconstruction of major sources of hazardous air pollutants; renumbered section V. Statements of Basis, Specific Statutory Authority and Purpose for Part E to section VI)

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and federal regulations which are incorporated by reference.

Title III of the 1990 Clean Air Act Amendments (CAAA) was enacted to help reduce the levels of air toxics emissions nationwide. Under Title Ill, section 112 of the Act was amended to give the EPA the authority to establish national control technology-based standards to reduce hazardous

air pollutants (HAPs) from sources that emit such pollutants. These standards are called Maximum Achievable Control Technology (MACT) Standards. However, Congress recognized that the EPA could not immediately issue standards for all industries, and that as a result there was a potential for significant new sources of toxic air emissions to remain uncontrolled for some time. Congress also recognized that, in general, it is most cost-effective to design and add new air pollution controls at the time when facilities are being built or significantly rebuilt.

As a result, section 112(g) of the CAAA requires MACT-level control of air toxics when a new major source of HAPs is constructed or reconstructed. States must determine MACT for the facility on a case-by-case basis when EPA has not yet issued a relevant MACT standard. This transitional program will be required for new major sources of air toxics during the period before EPA can establish a national MACT standard for a particular industry.

Section 112(g) also requires MACT-level control when major sources are modified. However, because of the transitional nature of section 112(g), the EPA has concluded that the greatest benefits to be derived would be from the control of major source construction and reconstruction in the period before MACT standards go into effect. Therefore, this regulation does not cover modifications to existing sources. EPA's decision is premised in part on the agency's ability to issue the remaining MACT standards in a timely manner, and also in part on the assumption that where there are existing State air toxics programs that address modifications, they will continue to operate as they do currently. If there are substantial delays in the issuance of MACT standards, or radical changes to existing State programs, the EPA will reconsider whether to issue a regulation to cover modifications under 112(g).

Basis

The EPA has promulgated revisions to the following NESHAPs: the Hazardous Organic NESHAP (HON), Secondary Lead Smelting, Stage I Gasoline Distribution, Petroleum Refineries, Aerospace Manufacturing and Rework Facilities, Wood Furniture Manufacturing, Shipbuilding and Ship Repair, Group I Polymers and Resins, and Group IV Polymers and Resins. The State of Colorado is required under section 112 of the CAAA to adopt such MACT standards and revisions into its regulations in order to maintain agency authority with regard to the Standards.

In addition, the EPA has promulgated Federal Regulations Governing Constructed or Reconstructed Major Sources of Hazardous Air Pollutants. Currently, Colorado has not adopted the federal regulations governing constructed or reconstructed major sources of HAPs, as required by section 112(g) of the 1990 Clean Air Act Amendments (CAAA). According to the federal rule, Colorado must adopt the program and specify an effective date which is no later than June 29,1998. Failure to adopt the federal program within this required time frame results in one of two scenarios. First, Colorado may conclude that it is able to make case-by-case MACT determinations as required by the rule; in this case, no determination would take effect until after submission in writing to EPA Region VIII (EPA-R8) and EPA-R8 concurs in writing that the determination conforms with the federal regulation. Second, Colorado may conclude that it cannot make case-by-case MACT determinations; in this case, Colorado may request that EPA-R8 adopt a transitional program while Colorado completes the appropriate development and adoption of the federal regulation. The transitional program can remain in effect for no more than one year. Continued failure by Colorado to adopt the program would be construed as a failure to adequately administer and enforce its Title V permitting program and would constitute cause by EPA to apply the sanctions and remedies set forth in the CAAA section 502(I). These sanctions include funding reductions for highway projects.

Authority

The authority for this regulation is contained in the Colorado Air Pollution Prevention and Control Act. Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) provide authority to adopt emission control regulations and emission control regulations relating to hazardous air

pollutants respectively. Section 25-7-105(12), C.R.S. (1997) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Section 25-7-106(6), C.R.S. (1997) provides the Commission with the authority to require testing, monitoring and record keeping. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

Adoption of the revisions to the NESHAPs and adoption of the Regulations Governing Constructed or Reconstructed Major Sources of Hazardous Air Pollutants by the Commission will make these federal rules enforceable under Colorado law. The rules are substantively identical to federal law. Adoption will not add requirements beyond federal minimums, and may benefit the regulated community by providing up-to-date information. Adoption will relieve the State from any risk of sanctions for failure to meet minimum standards for the Title V permitting program.

VI.I. October 15,1998

Adoption By Reference of Amendments to National Emission Standards for Hazardous Air Pollutants (NESHAP) and Adoption by Reference of National Emission Standards for Hazardous Air Pollutants for Pulp and Paper Production and Primary Aluminum Reduction Plants.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and Federal regulations which are incorporated by reference.

Title III of the 1990 Clean Air Act Amendments (CAAA) was enacted to help reduce the levels of air toxics emissions nationwide. Under Title III, section 112 of the Clean Air Act was amended to give the EPA the authority to establish national control technology-based standards to reduce hazardous air pollutants (HAPs) from sources that emit such pollutants. These standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs).

Basis

The EPA has promulgated revisions to the following NESHAPs: the Synthetic Organic Chemical Manufacturing Industry (SOCMI), Ethylene Oxide Commercial Sterilization and Fumigation Operations, Stage I Gasoline Distribution, Aerospace Manufacturing and Rework Facilities, Group I Polymers and Resins, and Group IV Polymers and Resins. In addition, the EPA has promulgated two new NESHAPS: Pulp and Paper Production and Primary Aluminum Reduction Plants. The State of Colorado is required under section 112 of the CAAA to adopt such standards and revisions into its regulations in order to maintain agency authority with regard to the standards.

Authority

The authority for this regulation is contained in the Colorado Air Pollution Prevention and Control Act. Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) provide authority to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively. Section 25-7-105(12), C.R.S. (1997) provides authority to promulgate regulations, which are necessary to implement the minimum elements of Title V of the Clean Air Act. Section 25-7-106(6), C.R.S. (1997) provides the Commission with the authority to require testing, monitoring and record keeping. Commission action in promulgating these regulations is taken pursuant to the above statutory provisions.

Purpose

Adoption of the revisions to the NESHAPs and adoption of the two new NESHAPs by the Commission will make these Federal rules enforceable under Colorado law. The rules are substantively identical to Federal law. Adoption will not add requirements beyond Federal minimums, and may benefit the regulated community by providing up-to-date information.

VI.J. February 19,1999

Adoption of Language to Defer Certain MACT Area Sources from Title V Permit Application Submittals until December 9,2000, Incorporation by Reference of Federal Amendments to 40 C.F.R. Part 63, Subparts M, S, T, X, CC and GG, and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants for Pharmaceuticals Production and Flexible Polyurethane Foam Production into Colorado Air Quality Control Commission Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Title III of the 1990 Clean Air Act Amendments was enacted to help reduce the levels of air toxics emissions nationwide. Title III amended section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. These standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs).

Subparts M, N, O, T, and X, 40 C.F.R. Part 63, establish NESHAPs for dry cleaners (Subpart M), chrome platers (Subpart N), ethylene oxide sterilizers (Subpart 0), halogenated solvent degreasers (Subpart T), and secondary lead smelters (Subpart X). In addition, Subparts M, N, O, T, and X require owners and operators of these sources to obtain Title V operating permits[1]. However, Subparts M, N, 0, T, and X also authorize state Title V authorities to defer sources subject to those subparts but “not major or located at major sources” (i.e., area sources) from submitting Title V operating permit applications until December 9, 2000.

[1]EPA permanently exempted the following area sources from this Title V operating permit requirement: (1) decorative chromium electroplating or anodizing operations that use fume suppressants as an emission reduction technology; (2) decorative chromium electroplating operations that use a trivalent chromium bath that incorporates a wetting agent as a bath ingredient; and (3) ail batch cold solvent cleaning machines.

Basis

1) Amendments to Regulation 8, Part E, section Sections III, Subsections B, C, D, F and I By a 1996 rulemaking, the Colorado Air Quality Control Commission (the “Commission”) incorporated by reference subparts M, N, O, T, and X, into Regulation 8, Part E, III, subsections B, C, D, F, and I, respectively. The Statement of Basis and Purpose accompanying that rulemaking indicates the Commission intended to exercise its discretion pursuant to subparts M, N, O, T, and X to defer area sources governed by those subparts from submitting Title V Operating Permit applications until December 9, 2000. However, the Commission did not explicitly adopt language granting such a deferral.

This rulemaking is intended to clarify the 1996 rulemaking by adopting language explicitly deferring area sources subject to 40 C.F.R. Part 63, Subparts M, N, O, T, and X from submitting Title V permit applications until December 9, 2000. There are approximately 350 area sources in Colorado that may be affected by this request for rulemaking.

2) Incorporations by Reference of Amendments to 40 C.F.R. Part 63 The EPA has promulgated revisions to the following NESHAPs: Perchloroethylene Dry Cleaning Facilities, Halogenated Solvent Cleaning, Secondary Lead Smelting, Petroleum Refineries, Aerospace Manufacturing and Rework Facilities, and Pulp and Paper Production. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such standards and revisions into its regulations. This rulemaking adopts these revisions to the NESHAPs.

3) Incorporation by Reference of 40 C.F.R. part 63, subparts GGG and III The EPA has promulgated National Emission Standards for Hazardous Air Pollutants for Pharmaceuticals Production and Flexible Polyurethane Foam Production. The State of Colorado is required under section 112 of the Clean Air Act to adopt such standards into its regulations. This rulemaking adopts these NESHAPs.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively. Section 25-7-105(12), C.R.S. (1997) authorizes the Commission to promulgate regulations necessary to implement the minimum elements of Title V of the Clean Air Act.

Purpose

1) Amendments to Regulation 8, Part E, Section III, Subsections B, C, D, F Adoption of language deferring area dry cleaners, chrome platers, ethylene oxide sterilizers, halogenated solvent degreasers, and secondary lead smelters from submitting Title V permit applications until December 9,2000 will significantly reduce the administrative burden on those sources. There are about 350 area sources in Colorado that would be affected by this deferral.

2) Incorporations by Reference of Amendments to 40 C.F.R. Part 63 Adoption of amendments to 40 C.F.R. Part 63, Subparts M, S, T, X, CC and GG will make these revised NESHAPs enforceable under Colorado law. Adoption of the amendments will not impose upon sources additional requirements beyond the minimum required by Federal law, and may benefit the regulated community by providing sources with up-to-date information.

3) Incorporation by Reference of 40 C.F.R. Part 63, Subparts GGG and III Adoption of the Pharmaceuticals NESHAP and Polyurethane NESHAP will make these rules enforceable under Colorado law. Adoption of the NESHAPs will not impose upon sources additional requirements beyond the minimum required by Federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.K. July 15,1999

Incorporation by Reference of Federal Amendments to 40 C.F.R. Part 61, Subparts A and R, and Part 63, Subparts A, F, G, H, I, O, S, T, X, and JJ, and Federal standards in 40 C.F.R. Part 63, Subparts 00 and PP into Colorado Air Quality Control Commission Regulation No. 8, Parts A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards.(40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title in that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called. National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following standards: 40 C.F.R. Parts 61 and 63 General Provisions, Radon Emissions from Phosphogypsum Stacks, Hazardous Organic, Halogenated Solvent Degreasing, Ethylene Oxide Sterilization, Secondary Lead Smelting, Wood Furniture Manufacturing, and Pulp and Paper Production NESHAPs. In addition, EPA has promulgated standards in 40 C.F.R. Part 63, Subparts OO and PP that have never been adopted by the State. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and current standards into its regulations. This rulemaking adopts these revisions to the NESHAPs and current NESHAPs.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of amendments to 40 C.F.R. Part 61, Subparts A and R, and Part 63, Subparts A, F, G, H, I, 0, S, T, X, and JJ, and current standards in 40 C.F.R. Part 63, Subparts 00 and PP will make these revised NESHAPs and current NESHAPs enforceable under Colorado law. Adoption of the amendments will not impose upon sources additional requirements beyond the minimum required by Federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.L. December 16,1999

Incorporation by Reference of Federal Amendments to 40 C.F.R. Part 63, Subparts F, G, H, I, S, U, EE, and JJJ, new Federal Standards in 40 C.F.R. Part 63, Subparts AA, HH, YY, CCC, DDD, HHH, LLL, MMM, NNN, PPP, TTT, and XXX, and Federal Amendments to 40 C.F.R. Part 63, Subpart B - Regulations Governing Constructed or Reconstructed Major Sources into Colorado Air Quality Control Commission Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended section 112 of the Clean Air Act to provide

EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current standards: 40 C.F.R. Part 63, Hazardous Organic, Magnetic Tape Manufacturing, Group I Polymers and Resins Production, Group IV Polymers and Resins Production, and Pulp and Paper Production NESHAPs. The EPA has promulgated the following new standards: 40 C.F.R. Part 63, Phosphoric Acid Manufacturing and Phosphate Fertilizer Production, Oil and Natural Gas Production and Natural Gas Transmission and Storage, Generic (acetyl resins production, acrylic and modacrylic fiber production, hydrogen fluoride production, and polycarbonate(s) production), Steel Pickling - HCL Process Facilities and Hydrochloric Acid Regeneration Plants, Mineral Wool Production, Portland Cement Manufacturing, Pesticide Active Ingredient Production, Wool Fiberglass Manufacturing, Polyether Polyols Production, Primary Lead Smelting, and Ferroalloys Production NESHAPs which have not yet been adopted by the State. In addition, the EPA has promulgated revisions to 40 C.F.R. Part 63, Subpart B pertaining to regulations governing constructed or reconstructed major sources. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions to current NESHAPs and new NESHAPs.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1997) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of: 1) Federal Amendments to 40 C.F.R. Part 63, Subparts F, G, H, I, S, U, EE, and JJJ, 2) new Federal Standards in 40 C.F.R. Part 63, Subparts AA, HH, YY, CCC, DDD, HHH, LLL, MMM, NNN, PPP, TTT, and XXX, and 3) Federal Amendments to 40 C.F.R. Part 63, Subpart B - Regulations Governing Constructed or Reconstructed Major Sources will make these revised NESHAPs and new NESHAPs enforceable under Colorado law. Adoption of the amendments will not impose upon sources additional requirements beyond the minimum required by Federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.M. Oct**o**ber 19,2000

Effectuation of Additional and New Deferrals for Area Sources from Title V Permitting Requirements, Incorporation by Reference of Federal Amendments to 40 C.F.R. Part 63, Subparts M, N, O, T, X, DD, YY, EEE, and JJJ, and Incorporation by Reference of new Federal Standards in 40 C.F.R. Part 63, Subparts EEE, 000, RRR, and VVV into Colorado Air Quality Control Commission

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

In accordance with section 502(a) of the 1990 Clean Air Act Amendments (CAAA), the Environmental Protection Agency (EPA) has the authority to exempt non-major sources, including area sources within the Section 112 program, from Title V permitting requirements if the agency finds that compliance with the permitting requirements is impracticable, infeasible, or unnecessarily burdensome on the sources. Also, the General Provisions that implement Section 112 of the CAAA provide that unless the EPA explicitly exempts or defers area sources that are subject to a NESHAP from Title V permitting requirements, they are subject. As a result, the EPA provided permitting authorities with the discretion to defer these sources from submitting an application for a Title V permit until December 9, 2000. Through a rulemaking in February 1999, the AQCC effectuated the deferral. The EPA has promulgated additional and new area source discretionary deferrals for the following NESHAP source categories: dry cleaners, chrome platers, halogenated solvent degreasers, ethylene oxide sterilizers, secondary lead smelters, and secondary aluminum producers. The additional and new deferrals were promulgated in order to obtain sufficient information to determine whether permanent exemptions are warranted for these area sources given the benefit for permitting such sources versus the costs and other burdens on such sources associated with obtaining Title V permits. Moreover, EPA was concerned with the impact on permitting authorities in issuing area source permits in addition to the existing major source and other source permits that state agencies have been struggling to issue since the inception of the Title V program. The Division agrees with the EPA's assessment. The additional and new deferrals would require these sources to submit a Title V application by December 9, 2005. Just as with the December 9, 2000 deferral, this additional Title V operating permit deferral is an option that may be adopted by the Commission and not an automatic deferral that these sources can invoke. Also, as with the previous deferral, the additional deferral does not affect compliance by these sources with the underlying standards. There are approximately 445-660 sources that would be affected by this rulemaking.

In addition, the EPA has promulgated revisions to the following current standards: 40 C.F.R. Part 63, Dry Cleaning, Chrome Plating, Ethylene Oxide Sterilization, Halogenated Solvent Cleaning, Secondary Lead Smelting, Offsite Waste Recovery, and Groups I and IV Polymers and Resins NESHAPs; and the EPA has promulgated the following new standards: 40 C.F.R. Part 63, Hazardous Waste Combustors, Publicly Owned Treatment Works, Amino/Phenolic Resins Production, and Secondary Aluminum Production. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions to current NESHAPs and new NESHAPs.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Effectuation of the additional and new area source deferrals would provide the Division with additional time to obtain sufficient information to determine whether a permanent deferral for these types of sources is warranted. In addition, if the deferrals are not effectuated, the Division's Title V program will be processing permits for 445-660 facilities as of December 9,2000.

Adoption of the federal amendments to 40 C.F.R. Part 63, Subparts M, N, O, T, U, X, DD, YY, EEE, and JJJ, and new federal standards in 40 C.F.R. Part 63, Subparts EEE, OOO, RRR, and VVV will make these revised NESHAPs and new NESHAPs enforceable under Colorado law.

Effectuation of the deferrals and adoption of the amendments to the existing NESHAPs and new NESHAPs will not impose upon sources additional requirements beyond the minimum required by federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.N. June 21,2001

Incorporations by reference of Federal Amendments to 40 C.F.R. Parts 61 and 63, and a. New Federal Standard in 40 C.F.R. Part 63 into Regulation No. 8, Parts A and E

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following: (1) the General Provisions contained in 40 C.F.R. Parts 61 and 63, Subpart A; (2) current 40 C.F.R. Part 61 NESHAPs for the Synthetic Organic Chemical Manufacturing Industry, and current 40 C.F.R. Part 63 NESHAPs for Hazardous Organic, Epoxy Resins and Non-nylon Polyamides Production, Polyether Polyols Production, Halogenated Solvent Cleaning, Aerospace Manufacturing and Rework facilities, Groups I and IV Polymers and Resins Production, Offsite Waste and Recovery Operations, Containers, Pulp and Paper Production, Pharmaceutical Production, and Hazardous Waste Combustion. In addition, the EPA has promulgated the following new standard: 40 C.F.R. Part 63, Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semi-chemical Pulp Mills. Also, the EPA has promulgated an interpretative rule to 40 C.F.R. Part 63, Subpart B, Construction and Reconstruction of Major Sources. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to 40 C.F.R. Parts 61 and 63, and new federal standard in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law. Adoption of these revisions will not impose upon sources additional requirements beyond the minimum required by federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.O. December 20,2001

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 63 NESHAPs for: Petroleum Refineries, Groups I and IV Polymers and Resins Production, Pulp and Paper Production, Oil and Natural Gas Production, Natural Gas Transmission and Storage, Ferroalloys Production, Hazardous Waste Combustion, Publicly Owned Treatment Works, Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and stand-alone Semichemical Pulp Mills. In addition, the EPA has promulgated the following new 40 C.F.R. Part 63 standards: Solvent Extraction for Vegetable Oil Production, and Manufacturing of Nutritional Yeast. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its' regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Adoption of these revisions will not impose upon sources additional requirements beyond the minimum required by federal law, and may benefit the regulated community by providing sources with up-to-date information.

VI.P. June 20,2002

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 63 NESHAPs for: Group IV Polymers and Resins Production, Natural Gas Transmission and Storage, Hazardous Waste Combustion, Pharmaceuticals Production, Ethylene Oxide Sterilization and Fumigation Operations, Pesticide Active Ingredients Production, and General Maximum Achievable Control Technology Standards. In addition, the EPA has promulgated the following new 40 C.F.R. Part 63 standards: Boat Manufacturing and Leather Finishing Operations. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Adoption of these revisions will not impose upon sources additional requirements beyond the minimum required by federal law, and may benefit the regulated community by providing sources with up-to-date information.

Statement of Basis, Specific Statutory Authority and Purpose

VI.Q. December 19,2002

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide EPA with the authority to establish national technology-based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 63 NESHAPs for: General Provisions, Phosphoric Acid Manufacturing and Phosphate Fertilizers Production Plants, Portland Cement Manufacturing, Pesticide Active Ingredients Production, and General Maximum Achievable Control Technology Standards. In addition, the EPA has promulgated the following new 40 C.F.R, Part 63 standards: Catalytic Cracking Units, Catalytic Reforming Units and Sulfur Plants at Petroleum Refineries, Wet formed Fiberglass Mat Production, Cellulose Production Manufacturing, Large Appliance Manufacturing, Metal Coil Coating, Polyvinyl Chloride and Copolymers Production, Primary Copper, and Tire Manufacturing. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(l)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

VI.R. Statement of Basis, Specific Statutory Authority and Purpose June 19,2003

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Parts 61 and 63 into Regulation No. 8, Parts A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended section 112 of the Clean Air Act to provide EPA with the authority to establish national technology- based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 61 NESHAPs for Emissions of Radionuclides Other than Radon From Department of Energy Facilities and Benzene Waste Operations. In addition, the EPA has promulgated revisions to the following current 40 C.F.R. Part 63 standards for: Generic Maximum Achievable Control Technology, Hazardous Waste Combustors, Portland Cement Manufacturing, Pesticide Active Ingredient Production, Secondary Aluminum Production, and Publicly Owned Treatment Works. The EPA has also promulgated the following new 40 C.F.R, Part 63 standards for: Municipal Solid Waste Landfills, Paper and Other Web Coating, and Friction Materials Manufacturing Facilities. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Parts 61 and 63 will make these revisions enforceable under Colorado law.

VI.S. December 18,2003

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Prior to the 1990 Clean Air Act Amendments, Section 112 of the Clean Air Act was enacted to help reduce the levels of air toxics emissions nationwide; EPA was given the authority to promulgate national health-based standards (40 C.F.R. Part 61). However, the 1990 Clean Air Act Amendments established Title III that amended Section 112 of the Clean Air Act to provide

EPA with the authority to establish national technology- based standards (40 C.F.R. Part 63) to reduce the emission of hazardous air pollutants (HAPs) from sources that emit such pollutants. Both Parts 61 and 63 standards are called National Emission Standards for Hazardous Air Pollutants (NESHAPs). However, the Part 63 standards have also been called Maximum Achievable Control Technology (MACT) standards.

Basis

The EPA has promulgated revisions to the following current 40 C.F.R. Part 63 standards for: General Provisions; Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry and Other Processes Subject to the Negotiated Regulation for Equipment Leaks; Coke Oven Batteries; Perchloroethylene Dry Cleaning Facilities; Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks; Ethylene Oxide Commercial Sterilization and Fumigation Operations; Industrial Process Cooling Towers; Gasoline Distribution (Stage 1); Pulp and Paper Production; Halogenated Solvent Cleaning; Group I Polymers and Resins; Group II Polymers and Resins; Secondary Lead Smelting; Phosphoric Acid Manufacturing; Phosphate Fertilizers Production; Petroleum Refineries; Offsite Waste and Recovery Operations; Magnetic Tape Manufacturing; Aerospace Manufacturing and Rework Facilities; Oil and Natural Gas Production; Shipbuilding and Ship Repair; Wood Furniture Manufacturing Operations; Printing and Publishing Industry; Primary Aluminum Reduction Plants; Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-alone Semichemical Pulp Mills; Tanks (Level 1); Containers; Surface Impoundments; Individual Drain Systems; Oil-Water Separators and Organic-water Separators; Steel Pickling - HC1 Process Facilities and Hydrochloric Acid Regeneration Plants; Mineral Wool Production; Hazardous Waste Combustors; Pharmaceuticals Production; Natural Gas Transmission and Storage; Flexible Polyurethane Foam Production; Group IV Polymers and Resins; Portland Cement Manufacturing Industry; Pesticide Active Ingredient Production; Wool Fiberglass Production; Group III Polymers and Resins; Polyether Polyols Productions; Secondary Aluminum Production; Primary Lead Smelting; Publicly Owned Treatment Works; Ferromanganese and Silicomanganese Production; Surface Coating of Metal Coil; Rubber Tire Manufacturing; Coke Ovens: Pushing, Quenching, and Battery Stacks; Brick and Structural Clay Products Manufacturing; and Clay Ceramics Manufacturing. The EPA has also promulgated the following new 40 C.F.R. Part 63 standards for: Asphalt Processing and Asphalt Roofing Manufacturing; Brick and Structural Clay Manufacturing; Clay Ceramics Manufacturing; Coke Ovens: Pushing, Quenching, and Battery Stacks; Engine Test Cells/Stands; Printing, Coating, and Dyeing of Fabrics and Other Textiles; Flexible Polyurethane Foam Fabrication Operations; Hydrochloric Acid Production; Integrated Iron and Steel Manufacturing; Surface Coating of Metal Furniture; Refractory Products Manufacturing; Reinforced Plastic Composites Production; Semiconductor Manufacturing; and Surface Coating of Wood Building Products. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

VI.T. July 15, 2004

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No.8, Part A and E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Basis

The EP A has promulgated revisions to current standards and new standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

VI.U. December 16, 2004

Incorporations by Reference of Federal Amendments to and New Federal Standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of Federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards and new standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

VI.V. July 21, 2005

Incorporations by reference of federal amendments to and new federal standards in 40 C.F.R. Part 63 into regulation No. 8, Part E and recognition of the Environmental Leadership Program in Regulation No. 8, Part E, Section I.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards and new standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

The Department of Public Health and Environment's strategic plan identifies the encouragement of incentives for environmental leaders, including encouraging companies to adopt the department's environmental leadership model, as a goal in the environmental target area.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to and new federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Adoption of language limiting the availability of the incentives provided in 40 C.F.R. Part 63, subpart A to companies that participate in both the federal performance track program and the Colorado department of public health and environment's environmental leadership program will encourage companies to adopt the department's environmental leadership model and will further progress toward fulfilling a goal of the department's strategic plan.

VI.W. February 16, 2006

Incorporations by reference of federal amendments to federal standards IN 40 C.F.R. Part 63 into Regulation No. 8, Part E.

BACKGROUND

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act. C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

BASIS

The EPA has promulgated revisions to current standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

AUTHORITY

Sections 25-7-105(1)(B) and 25-7-109(2)(H) and – 109(4), C.R.S. (1999) authorize the Commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

PURPOSE

Adoption of the federal amendments to federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

VI.X. February 15, 2007

Incorporations by reference of federal amendments to federal standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards in 40 C.F.R. Part 63. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Further, these revisions will include any typographical and grammatical errors throughout the regulation.

VI.Y. October 18, 2007

Incorporations by reference of federal amendments to federal standards in 40 C.F.R. Part 63 into Regulation No. 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards in 40 C.F.R. Part 63,Subparts A, F, G, M, O, HH, EEE, LLL, IIII, MMMM, PPPP, GGGGG, HHHHH, DDDDDD, EEEEEE, FFFFFF, and GGGGGG. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Further, these revisions will include any typographical and grammatical errors throughout the regulation.

VI.Z. March 20, 2008

Incorporations by reference of federal amendments to federal standards in 40 C.F.R. Part 63 into Regulation Number 8, Part E. Additionally, repealing of rules that have been vacated by the U.S. Court of Appeals for the District of Columbia Circuit.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards in 40 C.F.R. Part 63,Subparts A, DDDD, LLLLLL, MMMMMM, NNNNNN, OOOOOO, PPPPPP, QQQQQQ. Additionally, several federal rules have been vacated by the U.S. Court of Appeals for the District of Columbia Circuit, including 40 C.F.R. Part 63, Subparts JJJJJ, KKKKK and DDDDD. By incorporating the NESHAP amendments and repealing vacated rules, Colorado will maintain consistency between state and federal law.

The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law. Repealing federal rules that have been vacated by the U.S. Court of Appeals for the District of Columbia Circuit will maintain consistency between state and federal law.

Further, these revisions will include any typographical and grammatical errors throughout the Regulation.

VI.AA. June 18, 2009

Incorporations by reference of federal amendments to federal standards in 40 C.F.R. Part 63 into Regulation Number 8, Part E.

Background

This Statement of Basis, Specific Statutory Authority and Purpose complies with the requirements of the Administrative Procedures Act, C.R.S. (1988), Sections 24-4-103(4) and (12.5) for adopted or modified regulations, and with the requirements of federal regulations incorporated by reference.

Basis

The EPA has promulgated revisions to current standards in 40 C.F.R. Part 63, subparts A, G, H, R, U, M, HH,GGG, HHH, JJJ, EEE, VVV, EEEE, FFFF, UUUU, BBBBB, EEEEE, GGGGG, HHHHH, MMMMMM, NNNNNN, OOOOOO, PPPPPP, and QQQQQQ. The State of Colorado is required under Section 112 of the Clean Air Act to adopt such revisions and new standards into its regulations. This rulemaking adopts these revisions.

Authority

Sections 25-7-105(1)(b) and 25-7-109(2)(h) and -109(4), C.R.S. (1999) authorize the commission to adopt emission control regulations and emission control regulations relating to hazardous air pollutants respectively.

Purpose

Adoption of the federal amendments to federal standards in 40 C.F.R. Part 63 will make these revisions enforceable under Colorado law.

Further, these revisions will include any typographical and grammatical errors throughout the regulation.