OREGON OCCUPATIONAL SAFETY AND HEALTH DIVISION
DEPARTMENT OF CONSUMER AND BUSINESS SERVICES

PROGRAM DIRECTIVE

Program Directive A-213
Issued March 14, 1996
Revised May 27, 2014

SUBJECT: Asbestos

AFFECTED STANDARDS/ DIRECTIVES: All Directives

PURPOSE: This instruction establishes policies and provides clarification to ensure uniform enforcement of the Occupational Exposure to Asbestos Standards, 29 CFR 1910.1001, 1926.1101, and 1915.1001.

BACKGROUND: The final Occupational Exposure to Asbestos Standards, 29 CFR **:** 1910.1001, 1926.1101, and 1915.1001 were published in the Federal Register on August 10, 1994, and became effective October 11, 1994. These final standards amend the Occupational Safety and Health Administration's (OSHA's) Asbestos Standards issued on June 17, 1986 (51 FR22612, 29 CFR 1910.1001, June 20, 1986) for occupational exposure to asbestos in general industry, and the construction industry, 29 CFR 1926.1101 (previously 1926.58). In addition, a separate standard covering occupational exposure to asbestos in the shipyard industry, (29 CFR 1915.1001) was issued. Major revisions in the standards include:

1. A reduced time-weighted-average permissible exposure limit (PEL) of 0.1 fiber per cubic centimeter (f/cc) for all asbestos work in all industries.
2. A new classification scheme for asbestos construction and shipyard industry work which ties mandatory work practices to work classification.
3. A presumptive asbestos identification requirement for certain asbestos containing building materials.
4. Limited notification requirements for employers who use unlisted compliance methods in high risk asbestos abatement work.
5. Mandatory methods of control for brake and clutch repair.

General Consideration The final standards, 29 CFR 1910.1001, 1926.1101, and 1915.1001, apply to all activities (except agriculture) covered by the Act. The Construction standard, 29 CFR 1926.1101, covers (but is not limited to) activities involving asbestos: demolition, removal, alteration, repair, maintenance,

installation, clean-up transportation, disposal, and storage. The Shipyard standard, 29 CFR1915.1001, covers workers engaged in shipyard industry activities such as shipbuilding, ship repair and other work in shipyards.

The Construction and Shipyard asbestos standards contain both performance and specification standard elements. The standards have classified work activities into four (4) classes based on the potential of those activities to result in exposure.

The three standards are not identical, so the CSHO will have to give special attention to first defining which standard applies before proceeding. The Construction standard and the Shipyard standard are essentially the same while the General Industry standard differs mainly in the fact that work covered by General Industry is not included in the "class system." The General Industry standard **does** have a **mandatory** appendix for Brake and Clutch repair and specific floor maintenance provisions.

Inspection Guidelines for Occupational Exposure to Asbestos

The following guidance provides a general framework to assist the CSHO in conducting an inspection (See Appendices A through D):

1) The CSHO shall request that the employer provide copies of its initial exposure assessment and any monitoring data that may be available for review prior to the walk-around. This provides the CSHO the basic information necessary to make the appropriate choice of PPE.

    a. If the employer has relied upon objective data, additional time may be needed to locate and review these data. If the material is not readily available the CSHO shall presume initially that potential over-exposure exists and shall evaluate the work area to select appropriate entry procedures.

    b. As time saving measure the CSHO should request during the opening conference that the employer begin collecting other required documents e.g., medical surveillance records, training records, and respiratory protection program for all affected employees.

    c. In general industry, if the TWA and/or the Excursion Limit are exceeded, the employer is required to have established a written compliance program. The CSHO should request this document. This written document can be reviewed at a later time.

Specific Provisions of 29 CFR 1910.1001, 1926.1101, and 1915.1001

Guidelines and clarifications relating to specific provisions of the standard are provided in Appendices A through D to assist CSHOs in conducting inspections.

- Appendix A – Construction/Shipyard Decision Flow Chart
- Appendix B – Summary of EPA/OSHA Training Requirements
- Appendix C – Questions and Answers
- Appendix D – Supplemental Information

Classification and Grouping of Violations

The procedures in the Field Inspection Reference Manual, Chapters III, C2 and 5, shall be followed. If deviations appear appropriate, however, they may be discussed with the Regional Office.

Authorization to Review Limited Medical Information

Appropriately qualified compliance personnel, under the direction of the OSHA Supervisory Industrial Hygienist, are authorized to review medical records and medical opinions pertinent to a review of compliance with the asbestos standards. This authorization has limitations and procedures which must be followed as set forth in OSHA Instructions CPL 2-2.30, CPL 2-2.32, CPL 2-2.33, and CPL 2-2.46.

Training for OSHA Personnel

For all inspections on a site where asbestos exposures are expected to be above the TWA or the excursion limit or where Class I through IV work is being conducted, only experienced and properly trained CSHOs shall perform the on-site asbestos evaluation. CSHOs are expected to be knowledgeable of the:

a. Potential hazards which may be encountered at the site, including the potential hazards of asbestos, as well as the relationship between smoking and asbestos in producing lung cancer.

b. Contents of the asbestos standards including the appendices.

c. Appropriate PPE to be worn. Each CSHO who will be expected to use PPE shall be trained in the proper care, use, and limitations of the PPE. Use of respiratory protection by CSHOs is contained in OSHA Instruction CPL 2-2.54.

d. Emergency procedures.

e. Disposal of asbestos-related waste generated by the CSHO and decontamination procedures.

Protection of OSHA Personnel

The paramount concern addressed in this section is the protection of the CSHO. Compliance officers are reminded about Agency policy that appropriate personal protective equipment be used when exposed to a hazard.

1. Personal Protective Equipment (PPE).

    a. Regional administrators and area directors shall ensure that appropriate PPE is available for the CSHO.

        1) Respirators shall be selected in accordance with the respirator selection tables of the asbestos standards. If the CSHO uses negative pressure respirators to perform asbestos inspections, the CSHO must be provided with semi-annual respirator fit-testing in accordance with the asbestos standards.

        2) For inspections conducted under the asbestos standards, in which the CSHO is required to enter a regulated area or negative-pressure enclosure, disposable coveralls, head coverings, foot coverings, and gloves shall be worn.

2) Decontamination procedures for OSHA personnel. Prior to site entry CSHOs shall determine if decontamination facilities exist, whether they are adequate for the expected conditions at the site, and if they will be available for OSHA's use.

    a. CSHOs shall not enter negative pressure enclosures unless it is absolutely necessary. When the CSHO enters areas at the worksite where the asbestos standards would require decontamination, then the CSHO shall also utilize decontamination procedures.

    b. In the event that decontamination facilities are nonexistent, inadequate, or not available for use, CSHOs shall determine if adequate decontamination can be provided. If the CSHO decides that decontamination cannot be adequately provided the supervisor shall be contacted for guidance.

History: Issued 3-4-1996, Reformatted 2-12-2014, Revised 5-27-2014

APPENDIX A

Asbestos Regulation Summary

Appendix A is intended as a general guidance document in situations where all requirements of the Construction and Shipyard standards apply. It is not a substitute for the standard or any requirements in specific settlement agreements. CSHO's must use this appendix as a companion guide to the Construction and Shipyard standards and settlement agreements, as well as interpretations found in Appendix C.

ASBESTOS REGULATIONS SUMMARY

(1915.1001 & 1926.1101)

Glossary

ACM	Asbestos containing material
AHERA	Asbestos Hazard Emergency Response Act
½ APR	Half mask air purifying respirator (HEPA)
ASHARA	Asbestos School Hazard Abatement Reauthorization Act bz Breathing zone
CAB	Cement asbestos board
CAS	Certified asbestos supervisor (AHERA/ASHARA)
CIH	Certified industrial hygienist
CP	Competent person
EL	Excursion limit
GB	Glovebag
HEPA	High efficiency particulate air
HVAC	Heating, ventilation, air conditioning system
NEA	Negative exposure assessment
NP	Negative pressure
NPE	Negative pressure enclosure
NP	Negative pressure glovebag or box glovebag/box
O & M	Operations and Maintenance (AHERA/ASHARA)
PACM	Presumed asbestos containing material
PD	Project designer (AHERA/ASHARA)
PE	Professional engineer
PEL	Permissible exposure limit
PPE	Personal protective equipment
SARpd	Supplied air pressure demand respirator with SCBA escape bottle
SARpp	Supplied air positive pressure respirator
SM	Presumed and confirmed asbestos containing surfacing material
TSI	Presumed and confirmed asbestos containing thermal system insulation
25/10	25 linear feet/10 square feet

REQUIRED FOR MOST JOBS (regardless of air monitoring result)

* wet methods
* HEPA vacuum
* prompt clean-up/disposal

REQUIRED FOR ALL JOBS WHEN EXPOSURE EXCEEDS PEL (g)(2)(I)-(v)

* HEPA local exhaust
* enclosure
* directed ventilation away from breathing zone
* other work practices deemed feasible
* supplementation of feasible work practices with respirators

PROHIBITED ON ALL JOBS

* high speed abrasive disc saws without HEPA
* asbestos removal using compressed air without a capture device
* dry sweeping/shoveling
* employee rotation

JOB CLASS REQUIREMENTS			
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
TSI and SM removal	Removal of all other asbestos not TSI of SM	All disturbances of ACM (60" bag active disturbance limit)	Housekeeping Includes construction site cleanup
REGULATED AREA	REGULATED AREA	REGULATED AREA	REGULATED AREA
- signs	- signs	- signs	- signs
Competent person(CAS)	Competent person(CAS)	Competent person(O&M)	Competent person(O&M)
- regular inspections	- regular inspections	- regular inspections	- regular inspections
Critical barriers/isolation	Critical barriers/isolation (indoor work only)	Critical barriers/drop cloth	
-> 25/10 required	- if no NEA	- if no NEA	
- < 25/10 required if no NEA or adjacent workers	- if likely > PEL	-or > PEL	
	- if not intact removal		
HVAC isolation	Intact removal if possible	Local HEPA exhaust	
Drop cloths/plastic	Drop cloths	Drop cloths if TSI/SM and	
Directed ventilation		- drilling, cutting, sanding	
-or > PEL	if > PEL	-chipping	
	-local HEPA exhaust		
	-process isolation		
	- directed ventilation		
	- other work practices		
	- eng. control/suppl.resp.		
NPE	NPE	(may use Class 1 methods)	
- 4 air changes	- 4 air changes		
- -.02" H2O gauge	- -.02" H2O gauge		
- neg throughout	- neg throughout		
-directed air	-directed air		
- smoke test	- smoke test		
- power lockout-gfci	- power lockout-gfci		
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
GLOVEBAG	GLOVEBAG	GLOVEBAG	
- 6 mil seamless	- 6 mil seamless	- if TSI of SM and is	
- covers completely	- covers completely	-drilled	
- smoke test	- smoke test	-cut	
- 1 use, no moving	- 1use, no moving	-abraded	
-<150E surface	-<150E surface	-sanded	
-HEPA collapse disposal	-HEPA collapse disposal	- sawed	
- pre removal pipe wrap	- pre removal pipe wrap	-chipped	
- attached waste bag integ.	- attached waste bag integ.	(method same as class 1 procedure)	
- sliding valve separation	- sliding valve separation	-one person	
- two person	-one person		

NP GLOVE BAG PIPE RUNS	NP GLOVE BAG PIPE RUNS	NP GLOVE BAG PIPE RUNS	
- attached HEPA	- attached HEPA	-is TSI or SM and is	
- GB work practices the same	- GB work practices the same	-drilled	
- separate waste bag reuse	- separate waste bag reuse	-cut	
- two persons	-one person	-abraded	
		-sanded	
		- sawed	
		-chipped	
		(method same as class 1 procedure)	
		-one person	
NP GLOVE BOX	NP GLOVE BOX	NP GLOVE BOX	
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
- rigid construction	- rigid construction	- if TSI or SM and is	
- neg pressure generator	- neg pressure generator	-drilled	
- air filter unit attached	- air filter unit attached	-cut	
-ACM outlet	-ACM outlet	-abraded	
- back up generator	- back up generator	-sanded	
- 6 mil waste bags	- mil waste bags	- sawed	
- two persons	-one person	-chipped	
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
WATER SPRAY PROCESS	WATER SPRAY PROCESS		
MINI ENCLOSURE	MINI ENCLOSURE	MINI ENCLOSURE req	
-holds # 2 people	-holds # 2 people	- if TSI or SM and is	
-6 mil	-6 mil	- drilled	
- neg pressure required	- neg pressure required	-cut	
-seal holes	-seal holes	-abraded	
-smoke test	-smoke test	-sanded	
-clean before reuse	-clean before reuse	-sawed	
- directed ventilation	- directed ventilation	-chipped	
		(method same as class 1 procedure)	
ALTERNATE METHOD > 25/10 ft	ALTERNATE METHOD		
-isolate from bz	- CP certified < PEL		
- CIH/PE-pd certified < PEL	-no perimeter monitoring		
- perimeter monitoring <.01 f/cc	-worse case monitoring		
-worse case monitoring			

CLASS 1	CLASS 2	CLASS 3	CLASS 4
- OSHA notification			
ALTERNATE METHOD < 25/10 ft			
- CP certified			
-no perimeter monitoring			
-worse case monitoring			
-smoke tested	-smoke tested	(method same as class 1 procedure)	
NP GLOVE BOX -pre removal pipe wrap	NP GLOVE BOX -pre removal pipe wrap	NP GLOVE BOX -one person	
- HEPA filtration	- HEPA filtration		
-two persons	-one person		
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
RESPIRATORS	RESPIRATORS	RESPIRATORS	RESPIRATORS
- mandatory if > PEL/EL	- mandatory if > PEL/EL	- mandatory if > PEL/EL	- mandatory if > PEL/EL
- mandatory all Class 1	-½ APR if no NEA	-½ APR if no NEA	- mandatory if in respirator required
- SAR or PAPR required if no NEA	- mandatory if dry removal	- mandatory if dry removal	- mandatory in emergency
- mandatory in emergency	- mandatory in emergency	- ½ APR if TSI or SM	
	- mandatory in emergency	- mandatory in emergency	
PROTECTIVE CLOTHING	PROTECTIVE CLOTHING	PROTECTIVE CLOTHING	PROTECTIVE CLOTHING
- all jobs > PEL / EL	- all jobs > PEL / EL	- all jobs > PEL / EL	- all jobs > PEL / EL
CLASS 1	**CLASS 2**	**CLASS 3**	**CLASS 4**
-all jobs no NEA	-all jobs no NEA	-all jobs no NEA	-all jobs no NEA
-all jobs > 25/10			
DECONTAMINATI ON	DECONTAMINATI ON	DECONTAMINATI ON	DECONTAMINATI ON
- TSI/SM > 25/10 full decon (if infeasible or outdoor, vacuum off, remote decon)	-equip room/area/drop cloth if no NEA, > PEL	-equip room/area/drop cloth if no NEA,>PEL	-equip room/area/drop cloth in no NEA,>PEL
TSI/SM>25/10 equip room/area/drop cloth	- area must accommodate cleanup -must decon all equip/ppe - enter reg area through equip	- area must accommodate cleanup -must decon all equip/ppe - enter reg area through equip	- area must accommodate cleanup -must decon all equip/ppe - enter reg area through equip

	room/decon area	room/decon area	room/decon area
- area must accommodate cleanup -must decon all equip/ppe - enter reg area though equip room/decon area	- No Smoking in work area	- No Smoking in work area	- if in other regulated areas follow their decon procedure
-lunch area			- No Smoking in work area

APPENDIX B

SUMMARY OF OSHA/EPA TRAINING REQUIREMENTS

This provides a summary of the OSHA Asbestos Standards training requirements and a description of the EPA training courses referenced in the OSHA standards. The corrections made to the Final Rule published in the Federal Register on June 29, 1995, have been incorporated.

OSHA'S GENERAL INDUSTRY STANDARD 1910.1001 (j)

Employees exposed at or above the permissible exposure levels:

Section 29 CFR 1910.1001(j)(7) requires that training be provided prior to the time of initial assignment and at least annually thereafter. The elements to be included in the training program are listed in 29 CFR 1910.1001 (j) (7) (iii). There are no specifications in the standard for the length of the training session.

Employees who perform housekeeping operations:

Section 29 CFR 1910.1001 (j) (7) (iv) requires that the employer shall provide an awareness training course to employees who perform housekeeping operations in an area which contains ACM and PACM. Elements to be included in the asbestos awareness course are listed in the section. Training is to be provided at least once per year. There are no specifications in the standard for the length of the training session.

OSHA'S CONSTRUCTION STANDARD, 1926.1101 and SHIPYARD STANDARD, 1915.1001

Section 29 CFR 1926.1101 (k) (9) lists the training requirements for the construction asbestos standard. Section 29 CFR 1915.1001 (k) (9) lists the training requirements for shipyards.

Training is to be provided:

1) At no cost to the employee.
2) To all employees exposed at or above the PEL
3) To all employees who perform Class I through IV asbestos operations
4) Prior to or at the time of initial assignment and at least annually thereafter.

Class I Training Requirements

1) Equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement worker training. (40 CFR part 763, subpart E, appendix C)
2) Eight hours of annual refresher training is required.

Class II Training Requirements

1) For work involving building materials including roofing, flooring, siding materials, ceiling tiles or transite panels, training shall include at a minimum the elements in paragraph (k) (9) (viii), specific work practices and engineering controls set forth in paragraph (g). It shall include hands-on training and it is to be at least **8 hours** in length.

2) Exception: For other Class II operations the training shall include, as a minimum, all the elements in paragraph (k) (9) (viii), specific work practices and engineering controls in paragraph (g) and hands-on training. There are no specifications in the standard for the length of this training.

3) Annual refresher is required. The length of time for the refresher training is not specified.

Class III Training Requirements

1) Employees are to receive training which is consistent with EPA requirements for training local education agency maintenance and custodial staff as set forth in 40 CFR 763.92 (a) (2). The course shall include hands-on training and shall be at least 16 hours in length.

2) Exception: For class III operations for which the competent person determines that the EPA curriculum does not cover activities that workers perform, training shall include all the elements of paragraph (k) (9) (viii), specific work practices and engineering controls in paragraph (g) and hands-on training. There are no specifications in the standard for the length of the training.

3) Annual refresher is required. The length of time for the refresher training is not specified.

Class IV Training Requirements

1) Employees shall receive training which is consistent with EPA requirements for training local education agency maintenance and custodial staff as set forth in 40 CFR 763.92 (a) (1). The course shall be at least 2 hours in length.

2) The course shall include available information on locations of TSI and surfacing ACM/PACM, asbestos containing flooring and instruction in recognition of damaged, deterioration, and delamination of asbestos containing building materials.

3) Annual refresher is required. The length of time for the refresher training is not specified.

Unclassified Asbestos Operations

1) Unclassified asbestos operations cover employees likely to be exposed in excess of the Pels and who are performing asbestos operations that are not covered by Class I though IV operations.

2) Training shall meet the requirements of (k) (9) (viii).

Competent Person Training (Section (o) (4))

1) For Class I and II: Training shall be obtained in a comprehensive course for supervisors such as a course conducted by an EPA or a state-approved training provider.

2) For class III and IV asbestos work, training shall be equivalent in curriculum and training methods to the 16-hour operations and maintenance course developed by EPA for maintenance and custodial workers. Competent persons for Class III and IV work may also be trained in a comprehensive course for supervisors conducted by EPA or a state-approved training provider as described for Class I and II competent persons.

Summary of EPA Course Requirements:

A. EPA Model Accreditation Plan for asbestos abatement workers.

a) The four day training course includes:

1) At least 14 hours of hands-on training that provides asbestos workers with actual experience performing tasks associated with asbestos abatement work.

2) Topics for the course are to include the physical characteristics of asbestos, potential health effects related to asbestos exposure, employee personal protective equipment, work practices, personal hygiene, medical monitoring, air monitoring, relevant state, local, and federal standards, respiratory protection programs and medical monitoring programs, additional safety hazards on asbestos abatement projects.

3) Course review and an examination (50 multiple choice questions with 70% correct).

4) Individual respirator fit-testing.

5) The EPA training course requirements are found on page 5252 and 5253 of the February 3, 1994, Federal Register.

b) An annual refresher training session is required which is to be one full day. The refresher courses are to be conducted as separate and distinct courses, not to be combined with any other training during the period of the refresher course. The refresher course shall review and discuss changes in regulations, developments in state-of-the-art procedures, and a review of key aspects of the initial training course. A re-certification examination is at the option of the state.

B. Awareness training course developed by EPA for maintenance and custodial workers.

This training is detailed in 40 CFR 763.92 (a) (1). EPA specifies that this training is to be 2 Hours in length. Training shall include, but not be limited to:

1) Information regarding asbestos and its various uses and forms.

2) Information on the health effects associated with asbestos exposure.

3) Locations of asbestos-containing building material identified throughout each school building in which the employee works.

4) Recognition of damage, deterioration, and delamination of asbestos containing building material.

5) Name and telephone number of the person designated to carry out general local education agency responsibilities under 40 CFR 763.84 and the availability and location of the management plan. EPA does not specify refresher training for this category.

C. Operation and Maintenance course

The training required by EPA for this course is detailed in sections 40 CFR 763.92 (a) (1) and 40 CFR 763.92 (a) (2). This course is to be a total of 16 hours; 2 hours for the awareness level portion and 14 hours for the additional training required for operations and maintenance personnel.

The training shall include the same requirements for awareness training as well as the

following additional requirements:

1) Descriptions of the proper methods of handling asbestos containing building material.

2) Information on the use of respiratory protection and other personal protective measures.

3) The provisions of 40 CFR 763.92 and 40 CFR 763.91, Appendices A, B, C, D, EPA regulations contained in 40 CFR Part 763, Subpart G, and in 40 CFR Part 61, subpart M, and OSHA regulations contained in 29 CFR 1926.58.

4) Hands-on training in the use of respiratory protection, other personal protective measures, and good work practices.

D. EPA Model comprehensive course for supervisors

a) The five day training course includes:

1) Lectures and demonstrations on the physical characteristics of asbestos and asbestos-containing materials, potential health effects related to asbestos exposure, employee personal protective equipment, work practices, personal hygiene, medical monitoring, air monitoring, relevant state, local, and federal standards, respiratory protection programs and medical monitoring programs, insurance and liability issues, supervisory techniques for asbestos abatement activities, and contract specifications.

2) Fourteen hours of hands-on training must permit asbestos workers actual experience in performing tasks associated with asbestos abatement.

3) Individual respirator fit-testing

4) Course review

5) Written examination (100 multiple course questions with a passing score of 70%)

b) One full day of refresher training. The refresher courses are to be conducted as separate and distinct courses and not combined with any other training during the period of the refresher course. The refresher course shall review and discuss changes in regulations, developments in state-of-the-art procedures, and a review of key aspects of the initial training course. A re-certification examination is at the option of the state.

APPENDIX C

Contents

SCOPE

Note: The page numbers referenced in the Qs refer to specific pages in the August 10, 1994, Federal Register, Volume 59, Number 153.

Q. Are marine terminals and Longshoring covered by the general industry standard?

A. Marine terminals and Longshoring are covered by the General Industry standard if asbestos is being loaded, unloaded or stored.

Q. What work activity is most affected by the General Industry Asbestos standard?

A. Brake and clutch repair in the General Industry standard is the activity engaged in by the largest group of asbestos exposed workers, although most of them are exposed sporadically and at low levels. The next largest group consists of custodial workers who do not perform their duties as part of construction activities, but clean surfaces, sweep, buff and vacuum floors and wash walls and windows in manufacturing plants and a wide variety of public and commercial buildings.

Q. Is housekeeping work covered under the General Industry standard or the Construction standard?

A. Housekeeping work that is not related to construction activity is regulated under the General Industry standard. Housekeeping work which is related to construction activities at a construction site is covered by the Construction standard.

Q. What other industries are covered by the General Industry standard?

A. Primary and secondary manufacture of asbestos-containing products.

Q. What activities does the Construction Standard (29 CFR 1926.1101) cover?

A. The construction standard explicitly states that it covers, but is not limited to the following activities involving asbestos: demolition, removal, alteration, repair, maintenance, installation, clean-up, transportation, disposal, and storage. It has been redesignated 29 CFR 1926.1101.

Q. If construction activities are performed in a facility normally covered by the General Industry standard, which standard applies?

A. Asbestos work which involves removal, repair, maintenance or demolition is explicitly regulated by the Construction standard even if such work is performed with in a facility otherwise regulated under the General Industry standard.

Q. Does the standard apply during earthmoving projects, drilling, blasting or sawing where natural deposits of asbestos occur?

A. The record indicates that certain construction sites in mostly well-defined areas contain deposits of naturally occurring asbestos. In such cases, wetting the excavation site, often

required by local authorities, should be sufficient to suppress measurable airborne asbestos concentration. No other actions are required by the standard.

Q. In the above case is the employer required to take any action if there is on information readily available indication asbestos contamination of the soil?

A. In the absence of actual knowledge or information showing asbestos contamination of soil in the immediate vicinity of a construction site, the employer is not required to take any action under this standard.

DEFINITIONS

Q. How has the definition of asbestos changed in the asbestos standards?

A. The non-asbestiform varieties of the minerals actinolite, tremolite and anthophyllite are no longer included in the definition of asbestos.

Q. Briefly, what are the four classes of activities covered in the Construction standard?

A. Class I work is defined as activities involving the removal of thermal system insulation (TSI) and sprayed-on or troweled-on or otherwise applied surfacing asbestos-containing material or presumed asbestos-containing material.

Class II asbestos work is defined as removal of ACM or PACM which is not TSI or surfacing ACM or PACM. Certain incidental roofing materials such as mastic, flashing and cements when they are still intact are excluded. See the Roofing section of this appendix for more information.

Class III asbestos work is defined as repair and maintenance operations which are likely to disturb ACM or PACM. Disturbance means activities that disrupt the matrix of ACM or PACM, crumble or Pulverize ACM or PACM, or generate visible debris from ACM or PACM. Operations may include drilling, abrading, cutting a hole, cable pulling, crawling through tunnels, or attics and spaces above the ceiling where asbestos is actively disturbed or asbestos-containing debris is actively disturbed.

Class IV asbestos work means maintenance and custodial activities during which employees contact, but do not disturb ACM or PACM, and activities to clean up dust, waste, and debris resulting from Class I, II, III activities. This may include dusting surfaces where ACM waste and debris and accompanying dust exists, and cleaning up loose ACM or PACM debris from thermal system insulation or surfacing ACM/PACM, following construction activity.

Q. Do the new standards set a minimum level of asbestos content for asbestos-containing materials?

A. Asbestos-containing material means any material containing more than 1% asbestos.

Q. What is Presumed Asbestos Containing Material (PACM)?

A. The definition of PACM is limited to thermal system insulation and sprayed on and/or troweled or otherwise applied surfacing material in buildings constructed no later than 1980. The material is presumed to contain asbestos unless it is demonstrated in accordance with the standard that PACM does not contain asbestos.

Q. Does OSHA still use the term small-scale, short-term?

A. No. OSHA has dropped the term small-scale, short term work from the regulatory text. The term small-scale, short term was too limiting, has been shown to be confusing, and could

not be defined with sufficient precision to serve the purpose of distinguishing high risk asbestos-disturbing activity from activity of reduced risk.

Q. Are wrap and cut operations included in the definition of removal?

A. Yes, a wrap and cut operation is a type of asbestos removal. It consists of two distinct operations. The wrap portion requires the removal of small amounts of asbestos from either side of the pipe to be cut. This will be a Class I or III operation depending on the amount of asbestos removed. Once the asbestos is removed and wrapped, the pipe is then cut. The cutting portion of the job is unclassified, as it does not involve asbestos removal.

MULTI-EMPLOYER WORKSITES

Q. Who is responsible for employee protection on multi-employer worksites?

A. The standard explicitly requires asbestos hazards to be abated by the contractor who created or controls the source of asbestos contamination. Additionally, employers of employees exposed to the hazard must protect their employees.

Q. How are potentially exposed employees protected when their employer is not creating the hazard?

A. Paragraphs (d)(3) and (d)(4) of 1926.1101 set forth the duties of the employer of employees who are exposed to asbestos hazards, but who did not create the source of asbestos. An employer shall request the contractor with control of the hazard to take corrective action. For example, if there is a breach of an enclosure within which asbestos work is being performed, the employer of employees working outside that enclosure shall request the asbestos contractor who erected the enclosure to repair the breach immediately, as required by paragraph (d) (2). If the repair is not made, and if employees working outside the enclosure could be exposed to asbestos in excess of the PEL, the employer of those employees shall either remove them from the worksite pending repairs, or consider his employees to be working within a regulated area and comply with the provisions of paragraph (e) governing exposure assessments and monitoring of employees who work within such areas. If there is an enclosure, then the employer must inspect it to ensure the integrity of the enclosure. The general contractor who is deemed to have supervisory control over the entire worksite, including the regulated area, is also responsible for violations which could be abated or prevented by the exercise of such supervisory capacity.

Q. Does the standard provide by-stander protection, for employees working outside an enclosure?

A. Yes, the negative pressure enclosure system provisions are in paragraph (g), Methods of Compliance. These systems reduce exposures of the employees who are disturbing the asbestos who are inside the enclosure, as well as employees outside the enclosure. In other cases, critical barriers are required where, for instance, Class II materials are removed using aggressive methods.

EXPOSURE ASSESSMENT

Q. What is included in the new exposure assessment requirements in the Construction and Shipyard standards?

A. The exposure assessment predicts exposure and evaluates potential controls. In most cases, the exposure assessment will include both past and current monitoring. Monitoring results must be considered, but do not necessarily constitute an adequate assessment if they would not represent all representative employee exposures during the entire job. The assessment must review relevant controls, conditions and factors that influence the degree of exposure. These include, but are not limited to, quality of supervision and of employee training, techniques used for wetting the ACM, placing and repositioning the ventilation equipment and impacts due to weather conditions. The assessment must be based on a review of all aspects of the employer's performance doing similar jobs.

Q. Do all employers need to conduct an initial exposure assessment under the Construction standard?

A. In general, all employers who have a workplace covered by this standard are to conduct an initial exposure assessment at the beginning of each asbestos job [paragraph (f) (2)]. Exceptions to this requirement exist only for most Class IV work. Even employers who are planning to install full negative pressure enclosures with air flushing technology must conduct initial exposure assessments. Employers may base assessments of similar jobs on prior assessments of repetitive, routine jobs.

Q. Is it more difficult than before to base an initial exposure assessment on historic data?

A. Yes, the standard establishes specific evaluation criteria for historic data. This criteria includes the experience and training of the crews and the historic data must be updated annually. It is important to note that historic data is usually that data generated by an individual employer, whereas objective data is related to a product, material, or activity and may be derived from other employers' (such as the manufacturer of the product) data.

Q. Explain objective data.

A. The use of objective data grants a monitoring exemption and may be used as a basis for a negative exposure assessment. The employer using objective data must demonstrate that the product or material containing asbestos minerals or the activity involving such product or material cannot release airborne fibers in concentrations in excess of the PEL under those work conditions having the greatest potential for releasing asbestos. The employer may use data derived from other employers' jobs. The data should reflect worst-case conditions in a variety of occupational settings.

Q. When can objective data be relied on for a negative exposure assessment?

A. For any specific asbestos job (combination of activity and product) performed by employees who have been trained in compliance with the standard the employer must

demonstrate that, under worst case conditions, statistically there is a high degree of confidence that an exposure above the permissible exposure limit will not occur .

Q. How would an employer who performs repetitive work complete the exposure assessment?

A. An employer may evaluate repetitive operations with highly similar characteristics, as one job, such as cable pulling in the same building, so long as the data used also reflect repetitive operations of the same duration and frequency.

Q. Did OSHA adopt a clearance level?

A. OSHA has not included a provision for a specific clearance level in the revised standards.

METHODS OF COMPLIANCE

Q. What are the three basic controls required initially in ALL operations covered in the Construction standard?

A. Regardless of the exposure levels; the controls required are: use of HEPA filtered vacuums when the source of the dust/debris is damaged ACM or disturbance of ACM or PACM; use of wet methods to control asbestos fiber dispersion; and prompt disposal of asbestos contaminated waste materials. These provisions apply tov for example, employers who install asbestos-containing material (no Class designation), clean up asbestos-containing debris at a construction site (Class IV), repair a boiler covered with asbestos-containing TSI (Class I or III), and remove asbestos-containing surfacing material (Class I). Certain roofing operations, however, are not subject to these requirements. (See Appendix D).

Q. When does OSHA consider the use of wet methods infeasible?

A. An employer can demonstrate infeasibleness if he/she can show that wet methods cannot be used due to conditions such as electrical hazards, hot surfaces, and the presence of technical equipment which cannot tolerate moisture.

Q. What is required for the disposal of asbestos-contaminated waste?

A. All asbestos-contaminated waste must be promptly disposed of in leak-tight containers [(g)(l)(iii)].

Q. What is meant by the term air sweeping?

A. Where the exposure is expected to be above the PELs, OSHA requires ventilation that moves contaminated air away from employees toward a HEPA filtered exhaust device. It does NOT mean that a general building ventilation system to vent asbestos contaminated air, would be acceptable under the standard.

Q. Is the negative pressure enclosure the only effective system for larger removal operations?

A. Negative pressure enclosure systems are effective in many circumstances in protecting workers both within and outside the enclosure. Other systems such as glove bags and mini-enclosures can be equally effective.

Q. What is the major difference between the negative pressure enclosure and negative air ventilation?

A. The negative pressure enclosure system is primarily designed to keep asbestos from contaminating the building. The air pressure inside the enclosure is less than outside the enclosure. Negative air ventilation draws clean air from outside the enclosure at sufficient quantities and at strategic locations, so as to provide clean air in the worker's breathing zone and is part of the negative enclosure system.

Q. If an employer has a variety of work activities, how does one decide which class to follow?

A. The classes are exclusive. For example, the stripping of 50 linear feet of thermal system insulation, whether or not it has been positively identified as asbestos containing material, is Class I, for it is the removal of PACM. Repair of a valve covered by ACM is Class III, since removal is not taking place, if less than one glove bag of ACM has been disturbed. Removal of flooring material containing ACM is Class II. If more than one class of work occurs simultaneously, the work must be performed according to the highest hazard classification.

Q. Is all asbestos activity designated by class?

A. All asbestos work under the Construction and Shipyard standards is not in the class system. The installation of new asbestos-containing products does not carry a class designation, and thus the class-specific requirements do not apply to that activity. For work that does not readily fall into one of the four classes, the employer must comply with the PEL. Work covered by the General Industry standard is not included in the class system.

Q. What must an employer do if one is not sure what class the asbestos activity belongs in?

A. If it is not clear in which category the work belongs, the employer is to assume the higher, more restrictive, category applies, and must comply with the listed work practices and controls for that category.

Q. Does the new standard allow greater use of glove bags?

A. Yes, the standard expands the conditions in which glove bag use is allowed. Glove bag use for removal of TSI and surfacing ACM is now allowed without quantity limitation for intact TSI. For Class I work the standard requires that at least two persons work on any one glove bag operation. Class II glove bag work does not require two persons.

Q. Can an employer use glovebags which are larger than the standard 60 x 60 bag?

A. Yes, some employers may have a supply of glovebags that are approximate in size, such as 60 X 70. They may use their inventory until they are used up, however the employer is not permitted to fill the larger bags beyond a 60 X 60 capacity.

Q. Does OSHA allow the use of glove bags to remove asbestos from elbows, corners, and valves in Class I work?

A. Yes, if the glove bag is designed for that type of work and the other provisions for glove bags are followed.

Q. Does the standard prohibit the practice of continuous glovebagging for large removal projects?

A. No, This is permitted when performed following the methods of compliance by trained workers.

Q. If an employer is using an extender glovebag on extended runs of pipe sections, what method of compliance must be followed?

A. This type of glove bag is a series of single glove bags that are linked together. Each bag is separate from the next. The use of these bags is allowed so long as the requirements for glove bag removal are met. An oversized or monster glove bag is not a glove bag method and the employer would need to comply with the requirements of Class I Alternative control methods in 1926.1101(g) (6)

Q. Must ambient pressure glove bags be used inside a negative pressure enclosure (NPE)? If one is using a negative pressure glove bag to remove ACM and PACM from long runs of piping, must a NPE be used also?

A. No to both questions. The Construction and Shipyard standards require the competent person evaluate the need for engineering controls, and to ensure that they are being used.

Q. Is misting considered a wet method?

A. Wet methods encompass a range of work practices. For example, when removing material which is bound in a matrix, misting may be appropriate. Removing ACM or PACM which is not so bound, or where deterioration of the ACM has occurred, would require more aggressive wetting.

Q: What are asbestos spills/emergency cleanups under the Construction standard, and how are they classified?

A: Clean up of sizable amounts of asbestos waste and debris is covered by the Construction Standard. However, an asbestos spill has occurred when, for example, water damage occurs in a building or facility, and sizable amounts of ACM and/or PACM are dislodged. A competent person shall evaluate the site and ACM/PACM to be handled, and based on the type, condition and extent of the dislodged material, classify the cleanup as Class I, II, or III. Only if the material was intact and the cleanup involved mere contact of ACM, rather than disturbance, could there be a Class IV classification. An example might be the collection and disposal of dislodged intact ceiling tiles. Since collecting the tiles and disposing of them can be accomplished by careful handling, and would not result in disturbance of the material, this activity would be a Class IV job. As such, it would still have to be assessed by a competent person. Wet methods, HEPA vacuuming and prompt disposal are also required.

CLASS I WORK

Q. When must repair activity which involves disturbing ACM be treated as Class I work?

A. If the amount of asbestos so disturbed cannot be contained in one standard glove bag (60x60) or waste bag, Class I precautions are required.

Q. Does outdoor Class I work require an enclosure?

A. OSHA believes that most outdoor Class I work may be safely done without enclosures. Therefore, OSHA does not require enclosures. An exposure assessment must take place prior to outdoor work to determine other required controls.

Q. Does Class I work that is performed outdoors require decontamination facilities?

A. Yes, decontamination procedures for all Class I work, outdoors as well as indoors, including decontamination facilities and showers, must be made available for all Class I work, unless showers are not feasible. (An example of a situation where a shower may be infeasible would be operations conducted in cold temperatures, where an employer cannot provide temperature controlled shower trailers.) In OSHA's view, a shower will most often be feasible. The standard requires that a shower be available, meaning it does not have to be adjacent to the equipment room or clean room. An employer can use an existing shower located in a near-by building if the location next to the clean room is not feasible.

Q. Are glove bag systems allowed as a control in the removal of Class I materials?

A. Yes, for Category I asbestos work, a glove bag system which meets the requirements of the standard may be used. The glove bag must meet the specifications outlined in 29 CFR 1926 (g)(5)(ii) or 1915 (g)(5)(ii). Corrections to the Final Rule published in the Federal Register June 29, 1995, specifies that the standard allows glove bags to be used in Class I operations on elbows and other connectors as long as the bag was manufactured and designed for that purpose.

Q. When must a negative pressure enclosure (NPE) be smoke tested?

A. The standard requires the NPE to be smoke tested at the beginning of work within the enclosure and at the beginning of each shift. Smoke testing shall be conducted while the negative air machines or HEPA vacuums are operating to make it a valid test for leaks.

Q. If an employer chooses to use an alternative control method in accordance with paragraph (g)(6), is there a specific time when the employer must submit the required evaluation and- certification to OSHA?

A. The standard requires that a copy be sent before work is begun, with no further time frame specified. It is important to note that this submission to OSHA does not constitute approval nor will OSHA acknowledge to the employer receipt of the submission. The purpose of sending the evaluation to OSHA is to collect data on innovative removal techniques.

Q. Can other professionals besides certified industrial hygienists or licensed professional engineers evaluate and certify alternative control methods as required in CFR 1926.1101 (g) (6)(ii)?

A. Yes, however this must be determined by the COHO on a case-by-case basis. It is recognized that other professionals such as certified safety professionals (CSP), may be experienced in the asbestos field and possess the combination of skills, professional judgement and background to perform the evaluation. A review of the CSP's past work history and training should provide adequate documentation for compliance purposes. An employer would not be cited if it is determined that the CSP is qualified. Alternative control methods as defined by OSHA are modifications and innovations beyond the limits of existing technology in asbestos control technology that prove to be effective in controlling asbestos. It is included in the standard to ensure that this industry can continue to invent new ways to effectively and safely remove asbestos.

CLASS II WORK

Q. What are some examples of Class II construction work?

A. Class II asbestos work is defined as activities involving the removal of ACM or PACM which is not TSI or surfacing ACM. According to the definition, this includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, gaskets, joint compounds, roofing felts, roofing and siding shingles. Removal of small amounts of these materials (which would fit into a glovebag) may be classified as a Class III job. OSHA has excluded intact roofing mastics, coatings, flashings and cements as Class II materials. See the Roofing Section of this appendix for more information.

Q. Can an employer use Class I methods to perform Class II work?

A. Yes, an employer can always use a more restrictive method to perform asbestos work. It is OSHA's intent to allow Class I methods to be used for removing Class II materials when no modification in the apparatus is required. This is not an alternative method and no special notice to OSHA is required.

CLASS III WORK

Q. Under the Construction standard, what is the difference between Class III maintenance work and Class IV maintenance work?

A. Class III maintenance work involves disturbances of ACM. The clarified meaning of the term disturbance an activity that disrupts the matrix of ACM or PACM, crumbles or pulverizes ACM or PACM, or generates visible debris from ACM or PACM. Class IV asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II, or III activities.

Q. Is installing a smoke detector in a ceiling where asbestos products are present regulated by the Construction Standard?

A. Depending on the potential source of asbestos exposure, the installation of a smoke detector could be Class IV, Class III or neither. If the ceiling material to which the detector is to be attached is asbestos, the competent person must assess whether the attachment will involve contact (Class IV) or actually disturb the ceiling ACM. Where the source of asbestos exposure dust and debris above the ceiling, for example from friable sprayed on/troweled on surfacing materials, the competent person should direct a Class IV cleanup before installing the detector. Otherwise the installation may be a Class III job if it involves disturbing debris and dust containing asbestos.

CLASS IV WORK

Q. What provisions cover housekeeping work involving asbestos-containing materials?

A. Housekeeping work is covered in all three standards. Housekeeping provisions in the General Industry standard are contained in paragraph (k). These provisions cover routine cleaning in public and commercial buildings, in manufacturing and other industrial facilities, where construction activity is, not taking place. Housekeeping provisions in the Construction standard are contained in paragraph (1). Housekeeping provisions in the Maritime standard are contained in paragraph (1).

Q. What is included in Class IV work under the Construction Standard?

A. Class IV work includes activities to clean up ACM waste, debris and dust incidental to a construction activity. Examples of such work are cleaning up debris from cable running above a suspended ceiling, sweeping, mopping, dusting, cleaning, and vacuuming of asbestos containing materials and dust and debris from construction work involving ACM and PACM. Certain activities such as stripping and buffing of resilient flooring are Class IV maintenance work if they are done incidental to construction work. Class IV work also includes activities wherein the worker contacts, but does not disturb ACM/PACM.

Q: When must dust, which is unaccompanied by debris and waste be treated as ACM?

A: Under all three standards ACM must be handled wet and vacuumed using HEPA filters. Dust which accompanies debris and waste in areas with accessible PACM or visibly deteriorated ACM must be handled as ACM. Employers who know, or reasonably should know that unaccompanied dust is asbestos-containing material (ACM) must also comply with these procedures too. The fact that the standards do not state explicitly when dust must be considered as asbestos-containing does not mean that such situations do not exist. For example, where visibly deteriorated ACM, which is not intact, is in close proximity to a dust accumulation, and there is no similar dust accumulation where the ACM is not so proximate or damaged, a reasonable employer must either treat the dust as ACM or have the situation evaluated by a competent person.

BRAKE AND CLUTCH

Q. Are the appendices on Brake and Clutch Repair (Appendix F for General Industry and Appendix L for Shipyard employment) mandatory?

A. Yes.

Q. What are the two preferred methods for Brake and Clutch Repair?

A. The two preferred methods are the Low Pressure/Wet-Cleaning method and the Negative Pressure Enclosure/HEPA Vacuum System.

Q. Is the solvent spray method prohibited?

A. No. The solvent spray method is an equivalent method that may be used when proper work practices are followed.

Q. What are the work practices that must be used when an employer chooses the spray/solvent can method?

A. An employer who uses an equivalent method must follow detailed written procedures. At a minimum, the solvent spray method should include the following procedures: (1) the solvent shall be used to first wet the brake and clutch parts; (2) the brake and clutch parts shall be wiped clean with a cloth; (3) the contaminated cloth shall be placed in an impermeable container, and then either disposed of properly or laundered in a way that prevents the release of asbestos fibers in excess of 0.1 fiber per cubic centimeter of air; (4) any spilled solvent or dispersed asbestos shall be cleaned up immediately and not allowed to dry, either with a cloth or a HEPA vacuum. Dry brushing during solvent spray operations is prohibited.

Q. What other precautions are required when solvents are used?

A. The solvents typically used in brake and clutch work are hazardous chemicals, and the employer must therefore comply with the Hazard Communication standard. If the solvents used are flammable, appropriate precautions against fire and explosion must be taken.

Q. If the employer chooses to use one of the two preferred methods or an equivalent method, does the employer have to conduct exposure monitoring?

A. No.

Q. Does Appendix F that covers brake and clutch work practices also cover brake and clutch work done on large stationary equipment like printing presses?

A. No, the appendix is only intended for automotive work. For other asbestos jobs as described above, the employer must use work methods that reduce the exposures to below the PELs.

Q. What type of aqueous solution is allowed when the low pressure/wet cleaning method is used?

A. The intent of the standard was to ensure that the asbestos is sufficiently wet so that exposures are kept well below the PELs. The solution can consist only of water, or water mixed with an organic solvent, or a detergent. It is important to note the potential danger of solvent use in these operations. The use of solvents, which are often flammable and may also present a health hazard, must be undertaken with great care. The employer must also be in compliance with the Hazard Communication standard.

Q. Are other methods allowed for employers who do brake and clutch work infrequently?

A. Yes, for those shops in which brake work is infrequent, OSHA has determined to allow the use of a wet control method as a preferred method. Therefore, in facilities in which five (5) or fewer brace jobs (Five brake jobs is equivalent to five vehicles) or 5 clutches, or some combination totaling 5, are repaired each week, the mechanic/ technician may control potential asbestos exposure through the use of a pump sprayer (bottle) containing water or amended water to wet down the drum or clutch housing before it is removed and to control fiber release during subsequent activities. The mechanic may use other implements to deliver the water such as a garden hose; however, the resulting wastewater generated must be captured and properly disposed of without allowing it to dry on any surfaces. The spray should be controlled through the use of low pressure to the extent feasible. OSHA anticipates that the use of a spray bottle will be adequate to control the dust without generating a large volume of wastewater. However, any waste water generated must be disposed of properly.

Q. What provisions are required to perform a brake inspection?

A. The extent to which an inspection is different from the other brake servicing depends on whether and how the drum is removed. Most inspections of brake shoes involve removing the drum which may contain a substantial number of asbestos fibers. Precautions must be taken against the release of those fibers into the workplace. If the drum is carefully pulled back just far enough to observe the brake shoe and brake components, it is sufficient to thoroughly wet the exterior and around the seam between the brake drum and backing plate. Any dislodged material must be immediately cleaned up in accordance with paragraph (k) of the standard. Blows to the drum with a hammer or similar implement to dislodge a rusted-in-place or frozen drum may cause asbestos fibers to be released. For such cases, in shops performing 6 or more brake jobs per week, an enclosure must be installed around the drum to capture the dust or the drum interior and contents must be thoroughly wetted prior to striking or forcibly removing the brake drum. As with other brake servicing, this must be done using a preferred or equivalent method. When using the equivalent spray can method, first wet the interior and contents of the drum before striking it. Then, carefully pull the drum back just enough to allow another application of solvent and thoroughly wet the interior before removal of the drum. There should be no visible dust created during drum loosening and removal.

ROOFING OPERATIONS

Q. What roofing operations are Class II operations?

A. Removal of built-up roofing in which the roofing felts contain asbestos, and removal of asbestos-containing shingles and asbestos-containing felt underlayments, are the major Class II operations. Class II operations may also include removals of other asbestos-containing roofing materials, such as cements, coatings, mastics, and flashings, in the unusual situations when such materials are not intact. It is expected that cements, coatings, etc. will commonly be found intact.

Q: What roofing operations are NOT Class II operations?

A: Removal of intact cements, coatings, mastics, and flashings, is not Class II work.

Q. Under what circumstances is removed roofing material considered non-intact?

A. As defined in the standard, ACM is considered non-intact if it has crumbled, been pulverized, or has otherwise deteriorated so that the asbestos fibers are no longer likely to be bound within their matrix. Under this definition, ACM is not rendered non-intact simply by being separated into smaller pieces. For example, in removing built-up roofing, the roof is typically cut into sections using a power roof cutter. The separation into smaller sections does not render the material non-intact material if it is otherwise intact. Other roofing materials are also typically separated into smaller sections during removal. Roof mastics and cements are usually pried, chipped or scraped off; asphalt felt underlayments are sliced and rolled-up or sometimes scraped-off or chipped-off; flashings are sliced into manageable units and then pried-up; asbestos-containing shingles occasionally break even when removed carefully. The fact that otherwise intact roofing materials become separated in such a fashion does not by itself render them non-intact under the standard. The condition of the smaller pieces must be examined to determine whether the material is non-intact.

Q. What does the standard require during removals of intact cements, coatings, mastics, and flashings?

A. On many roof removal jobs, the only asbestos is found in cements, mastics, coatings, and flashings. Because significant numbers of asbestos fibers are not released from such products when the material is intact, only minimal precautions are required. The material must be removed using manual methods and must not be sanded, abraded or ground. Material that has been removed from a roof must not be dropped or thrown to the ground and must be removed from the roof by the end of the work shift. Prior to the start of the job; the material must be examined by a competent person to determine whether it is intact and is likely to remain intact throughout the job. The employees must be trained in the hazards of asbestos exposure and the proper work practices and prohibitions applicable to such work.

Q. What does the standard require when ACM is newly installed on a roof?

A. Currently, the only materials being installed on roofs that contain asbestos are certain coatings, cements, and mastics. When such materials are installed, the requirements discussed in

the previous answer apply. In addition, when materials labeled as containing asbestos are installed on nonresidential roofs, the contractor must notify the building owner of the presence and location of the asbestos-containing material.

Q. What types of manual methods may be used to remove intact cements, coatings, mastics, and flashings?

A. Permissible methods include the use of spud, spade, flat-blade or slicing tools, such as axes, mattocks, pry bars, spud bars, crow bars, shovels, flat-blade knives, and utility knives, to slice, cut, strip-off, or pry-up the material.

Q. What does the standard require during removals of intact cements, coatings, mastics, and flashings?

A. On many roof removal jobs, the only asbestos is found in cements, mastics, coatings, and flashings. Because significant numbers of asbestos fibers are not released from such products when the material is intact, only minimal precautions are required. The material must be removed using manual methods and must not be sanded, abraded or ground. Material that has been removed from a roof must not be dropped or thrown to the ground and must be removed from the roof by the end of the work shift. Prior to the start of the job, the material must be examined by a competent person to determine whether it is intact and is likely to remain intact throughout the job. The employees must be trained in the hazards of asbestos exposure and the proper work practices and prohibitions applicable to such work.

Q. When must a roofing contractor monitor for asbestos on Class II jobs?

A. Evidence in the rulemaking record shows that exposures on most Class II roof removal jobs will be well below the PEL when employers comply with the work practices required by the standard and the workers are properly trained. Therefore, exposure monitoring is not required when a competent person determines that the material is intact, the work practices specified in the standard are followed, and the employees have been trained in accordance with the standard.

Q. Must asbestos-containing material that has been removed from a roof be bagged, wrapped, or kept wet on the roof?

A. These precautions are not required when the material is intact. If the material is not intact, it must either be lowered to the ground immediately or must be bagged, wrapped, or kept wet while it remains on the roof. Whether or not the material is intact, it must be lowered from the roof no later than the end of the work shift.

Q. Must a roof be HEPA-vacuumed before removal work begins?

A. The ordinary accumulation of environmental dust and debris on a roof will not require HEPA-vacuuming. Only if there is an indication that non-intact ACM is the source of dust or debris must that dust or debris be HEPA-vacuumed.

Q. May dry sweeping be used to remove accumulated dust and debris from a roof before removal work begins?

A. It is often appropriate to remove accumulated dust and debris from a roof to reduce the total atmospheric contamination produced by the removal job. Power brooms (machines similar to street sweepers) are sometimes used for this purpose. Dry cleanup of dust and debris is permitted unless the dust and debris is associated with non-intact ACM.

Q. May a power cutter be used to remove a built-up roof?

A. Yes. The blade of the cutter must be continuously misted during use unless a competent person determines that misting substantially decreases worker safety. If the roofing material is non-intact, before removal work begins, additional wetting and/or other precautions, such as use of hand methods and respirators, may be needed.

Q. When a power roof cutter is used to remove a built-up roof, how must the dust from the cutting operation be collected?

A. When the roof has an aggregate surface, the dust must be-collected by a HEPA vacuum or HEPA dust collector. These methods may also be used if the roof has a smooth surface. However, in the case of roofs with smooth surfaces, the dust may also be collected by gently sweeping and carefully and completely wiping up the dust and debris left along the cut line while it is still wet and immediately placing the dust and debris in a covered container.

Q. Must asbestos-containing shingles be wetted before being removed from a roof?

A. Wetting shingles will often make them slippery and lead to slipping and falling hazards that can be particularly dangerous on sloped roofs. Wetting of intact shingles is therefore not required. Wetting of non-intact shingles is required where feasible but the shingles need not be wetted when the competent person determines that wetting would create slipping and falling hazards.

Q. When shingles are not wetted, must respirators be worn?

A. Although the standard generally requires that respirators be used for Class II work when wet methods are not used, there is an exception when shingles are removed from sloped roofs. Because respirator use reduces visibility and mobility and would therefore be hazardous on sloped roofs, respirators are not required if a negative exposure assessment has been made and the ACM is removed in an intact state.

Q. In what circumstances must respirators be worn?

A. In roofing work, respirators are required (1) when wet methods are not used during removal of non-intact material; (2) when the material does not remain substantially intact during removal; (3) when the employer is unable to make a negative exposure assessment; and (4) when asbestos exposures exceed the PEL.

Q. Is there an exception to the requirements for HEPA vacuuming and wet methods for small roofing jobs?

A. Yes. When an employer repairs or removes less than 25 square feet of a roof in a single day, HEPA vacuuming and wet methods need not be used. This exception only applies, however, when manual methods are used to remove the material and no visible dust is created by the removal method.

Q. When Class II roof removal work is done, must all roof level air intake sources on the roof be isolated or shut down?

A. No. In general, only those air intakes within the regulated area must be isolated or shut down. However, intakes outside the regulated area may need to be isolated or shut down to prevent asbestos from entering the building's ventilation system if, for example, the wind is blowing towards such intakes from the regulated area. OSHA expects the competent person to use good judgment to achieve the intent of the standard.

Q. What isolation techniques for air intakes are permitted?

A. Acceptable isolation techniques include use of a buffer zone, use of HEPA filters over the air intakes, use of horizontal or vertical extensions that relocate the opening of the air intake outside or above the regulated area or away from or above a nearby upwind source of asbestos fiber emissions, or covering the intake with plastic sheeting or other barrier. The competent person must use good judgment to choose an appropriate isolation method based on the circumstances of the particular job.

Q. How are nails removed from commentates asbestos-containing siding and shingles?

A. The Construction standard requires in (g)(8)(iii)(D) that if the nails are to be cut they must be cut with a flat, sharp instrument. If the nails are not to be cut, the nails can be pulled out.

FLOORING OPERATIONS

Q. When must an employer presume that flooring material contains asbestos?

A. A 1988 EPA survey reported that 42 percent of public and commercial buildings within the U.S. contain asbestos-containing flooring material. The standard requires that employers presume that floor tile and resilient flooring found in buildings constructed no later than 1980 contains asbestos and take the specific precautions required unless the employer demonstrates that the flooring materials do not contain asbestos, by using recognized analytical techniques.

Q. What work practices are prohibited or restricted in floor maintenance?

A. (1) Sanding of asbestos-containing flooring material is prohibited; (2) stripping of finishes must be conducted using low abrasion pads at speeds lower than 300 rpm and wet methods; and (3) burnishing or dry buffing may be performed only on asbestos-containing flooring which has sufficient finish so that the pad cannot contact the asbestos-containing material .

Q. What work practices must be used when removing floor tile?

A. The floor must first be HEPA-vacuumed. The floor tiles then must be carefully pried up individually after being wetted. Misting is sufficient if the tiles are removed intact. After removal, each tile must be placed in an impermeable trash bag or other impermeable waste container.

Q. If the wetting agent contains a hazardous substance what other precautions must the employer take?

A. The employer may be responsible for compliance with other standards such as the Hazard Communication standard. The employer shall obtain a Material Safety Data Sheet for the substance and follow the recommendations for the use of personal protective equipment and provide training.

Q. If floor tiles are broken during removal, are they no longer intact?

A. Not necessarily. Some incidental breakage of floor tiles is to be expected. Under the standard, material is not intact only if it has crumbled, been pulverized, or has otherwise deteriorated so that the asbestos fibers are not longer likely to be bound with their matrix. Therefore, the incidental breakage of tiles does not by itself mean that the material is not intact.

Q. How are tiles to be removed when they cannot be removed by careful prying?

A. The tiles may be heated to soften the adhesive holding them to the substrate. When tiles are removed intact using heat, wetting may be omitted.

Q. How are tiles to be removed when they cannot be removed by either careful prying or heating?

A. Aggressive techniques such as mechanical chipping can be used if a competent person evaluates the worksite and determines that additional precautions required by the standard are properly installed and operated. This may include negative pressure enclosures.

Q. How must residual adhesive be removed?

A. The standard does not require removal of residual adhesive, but it is often necessary to remove or smooth residual adhesive to prepare the surface for installation of a new floor. Wet methods must be used when removing residual adhesive. The adhesive must either be wet-scraped manually or removed using low speed floor machine and wetted sand or a removal solution. The adhesive residues must be placed in an impermeable trash bag or other impermeable container while still wet. Remaining water or dirt in the area must then be HEPA vacuumed.

Q. What work practices must be used when removing resilient sheet flooring?

A. The material must not be ripped up. The floor shall first be HEPA vacuumed. The sheet flooring shall then be removed in strips 4 to 8 inches wide. As a strip is removed the point of separation must be constantly misted to minimize fiber release. A strip must be rolled up as it is removed and the roll placed in an impermeable trash bag or other impermeable container. Residual felt and adhesive is then removed by wet scraping, and the floor is HEPA vacuumed.

Q. When must flooring removal jobs be monitored for asbestos levels?

A. Most jobs will not require monitoring. Monitoring is only required if compliant work practices are not followed, if the material is not removed intact, or if the employees are not properly trained in accordance with the standard.

Q. What level of training is required for competent persons for flooring removal operations?

A. When flooring removal jobs are conducted using compliant work practices and the material is removed intact, the competent person must have completed at least 12 hours of training. If the material is not removed intact, the competent person must have completed a training course that meets the requirement for a Class II competent person.

Q. Must respirators be worn when floor tiles are removed using heat?

A. The standard generally requires that respirators be worn when Class II work, including floor tile removal, is not performed using wet methods. However, the standard allows wetting to be omitted when floor tiles are removed intact using heat. Since the use of heat to remove floor tiles provides the same level of protection against fiber release as the use of wetting, the omission of wetting does not require respirators to be worn when heat is used and the tiles are removed intact. Respirators would only be needed if their use is required under another provision of the standard.

BUILDING OWNER'S RESPONSIBILITIES

Q. Does a building owner have any responsibility under the standard even though the employees at risk may not be the owner's direct employees?

A. Yes. The building or facility owner must notify contractors and tenants of the presence of ACM/PACM, even though the employees at risk are not the owner's direct employees. OSHA has the authority to require building owners who are statutory employers to take necessary action such as notifying other employers, and to protect employees other than their own. They also have the responsibility to identify and label ACM/PACM when required. Homeowners are not considered building owners when they have work done in their private homes.

Q. When shipyard vessels undergoing repair are foreign-owned, who is considered the building owner?

A. When a foreign-owned vessel is repaired in an American shipyard, the employer is either the shipyard or an outside primary contractor. They must either treat materials defined as PACM as asbestos-containing or sample the suspect material and analyze it to determine whether or not it contains asbestos.

Q. Does a long term lessee of a building have the same responsibilities as a building owner?

A. Building owner has been defined to include lessees who control the management and recordkeeping functions of a building/facility/vessel. It is not OSHA's intention to exempt the owner from notification requirements by allowing a lessee to comply. Rather, when the owner has transferred the management of the building to a long-term lessee, that lessee is the more appropriate party to receive, transmit, and retain information about in-place asbestos. When the lease is terminated, the records are to be transferred to the building owner.

Q. Can building owners use building records to rebut the presumption of asbestos containing materials (PACM)?

A. Generally, building records must be relied upon to rebut the presumption of asbestos containing material (PACM). If an employer had an AHERA asbestos survey, such a survey would be accepted. However, for non-PACM materials, building owners and employers may use all sources of information including building records to show that the materials do not contain asbestos.

Q. What materials must be presumed to contain asbestos?

A. Thermal system insulation (TSI) and sprayed on and troweled on surfacing materials installed no later than 1980. (Note: In addition, resilient flooring material installed no later than 1980 shall be identified as asbestos-containing). Other building/facility areas and material would not be exempt from the standard's control requirements; however, they would not be presumptively considered to contain asbestos.

Q. Do the standards require any particular qualifications of the person who designates materials as PACM?

A. The person who designates materials as PACM is not required to have any technical training. The evaluation is not to determine if the material is or is not asbestos, rather it is to identify thermal system insulation and surfacing materials. The process does not require technical training. Thermal system insulation, and sprayed on or troweled on surfacing material are easily recognized and identified.

Q. Are the sign and label requirements the same in the General Industry standard as they are in the Construction and Shipyard standard?

A. Yes, the three standards contain the same provisions.

Q. If construction of a building began before 1981 but was not completed until several years later, is the owner responsible for presuming asbestos exists in the entire building?

A. The COHO will need to evaluate this on a case-by-case basis. Generally speaking, the focus would be on areas that contain suspect materials in those areas built before 1981.

REPAIR AND MAINTENANCE

Q. How has the definition of repair and maintenance changed?

A. Repair and maintenance is now considered Class III work if it involves less than one glovebag of material, regardless of the time it takes to do the job. If the job involves more than one glovebag of TSI or surfacing material then it is a Class I job. If the job involves more than one bag of other ACM then it is a Class II job.

Q. What are some examples of activities that may be classified as Class III?

A. These activities may include: maintenance/repair of boilers, air handling units, heat exchangers, and tanks; repair/replacement of pipe insulation including cutting away of small amounts of ACM (that which fits into a standard glovebag or disposal bag); valve or gasket replacement, or activities above suspended ceilings such as connections and/or extensions for telecommunication/ computer networks; adjustment/repair of HVAC systems and; testing/cleaning/replacing smoke or heat detectors when connected to ceilings containing ACM. Class III work involves a disturbance (see Appendix D).

COMPETENT PERSON

Q. What training must a competent person have?

A. For Class I and II work, the competent person must take a course such as that under the EPA Model Accreditation Plan for accredited contractor/supervisor, or an equivalent in content, duration, and criteria for success. For Class III and IV work, the competent person must receive the equivalent of EPA's Operations and Maintenance training. All competent persons must be capable of identifying existing asbestos hazards in the workplace and taking prompt corrective action.

Q. Has the definition of competent person changed?

A. The definition of a competent person has been amended in the Construction standard and a definition of a qualified person has been included in the Shipyard standard. The scope of the competent person's duties has expanded so that a competent person must supervise all asbestos activities under the Construction standard.

Q. Are a specified number of on-site supervisors required under paragraph (o) in the Construction and Shipyard standard?

A. OSHA has not specified a ratio of on-site supervisors to abatement workers.

Q. What is the definition of a competent person in the Construction standard?

A. As in the regulations applying to all construction work, the competent person must be capable of identifying existing and predictable hazards ...which are ...hazardous to employees, and (have) authorization to take prompt corrective measures to eliminate them (29 CFR 1926.32 (f)). Also, the competent person must be designated by the employer (29 CFR 1926.20(b)(2)). OSHA notes that this competency is independent of the training required to be an asbestos competent person. Competency as well as training is required. Thus, a competent person is not merely someone with a specified level of training but connotes a high level of knowledge of worksite safety and health issues as well.

RESPIRATORS

Q. What are the respiratory protection requirements for Class I work when the exposure is in excess of 0.1 f/cc or when a Negative exposure Assessment (NEA) has not been produced?

A. Respirators must be worn for all Class I work. In the above circumstances an employer must provide a Supplied Air respirator operated in the pressure demand mode. In addition the employer must provide appropriate escape devices that could be either the auxiliary positive pressure SCBA or egress HEPA filters.

Q. When can a PAPR be used in Class I operations?

A. The standard allows a tight-fitting PAPR in Class I operations when the exposure levels do not exceed 1.0 f/cc as an 8-hour TWA.

Q. If an NEA has been produced in a Class I job, what respirator is required?

A. In situations where the competent person makes a determination that exposures in Class I jobs will be less than the PELs, the respirator could be selected from among available NIOSH approved negative pressure devices that are non-disposable and equipped with high efficiency filters, unless the employee requests a PAPR.

Q. Is an industrial hygiene consultant who is doing an asbestos survey by taking bulk samples required to use a respirator?

A. This would be a Class III operation and, as in all Class III operations, a negative exposure assessment must be made to determine if a respirator is required.

LABELS

Q. In the Construction standard, 1926.1101 (k)(5) requires that signs be posted at the entrance of mechanical rooms. Can the signs be placed inside the room?

A. Yes, the intent of the standard is to ensure that persons entering the rooms see the signs and are therefore forewarned of the presence of asbestos. The sign can be inside the room, as long as the sign is visible to those entering.

Q. Is color coding an acceptable alternative to labels where asbestos containing Products are installed?

A. Yes. There may be instances where asbestos-covered materials (pipes, tanks, etc.) would make labeling infeasible. The employer must ensure that all employees and contractors have been trained to understand the coding system. In addition, 437-002-378 (4) contains labeling requirements for pipes with asbestos insulation with alternatives to actual labels allowed. (*The employer may use signs, placards, process sheets, batch tickets, operating procedures, or other such written materials in lieu of affixing labels to individual pipes, as long as the alternative method identifies the pipe(s) to which it is applicable and conveys the information required by this rule. The written materials shall be readily accessible to the employees in their work areas during each shift. (OAR 437, Division 2/Z, Hazard Communication, 1910.1200.))*

Q: Are there guidelines concerning the feasibility of posting signs and labels on installed asbestos products in a building?

A: Signs and labels for installed asbestos products in all three standards is a performance oriented requirement. The degree to which signs and labels are required depends on the exposure potential, access to the asbestos product, and the hazard of the material. Signs and labels are required to be posted on or near the product. It is generally not feasible to put labels on walls or floors. If it is not feasible, alternatives may be used. For example, if asbestos-containing floors are being serviced by employees using a common equipment room day after day, then a sign or label for the asbestos flooring can be posted in the equipment room. The object is to forewarn employees who may be potentially exposed during the floor cleaning operation and have access to the material. The label could be posted on the buffing machine which the employer chooses. In another example, signs and labels can be used in a more limited way when the mechanical staff is performing asbestos related operations internally. It is the employers responsibility to train employees performing Class III operations, which means signs and labels do not play as important a role as they would if the employer uses outside contractors. When outside contractors come in, the employer must post signs and labels.

TRAINING

Q. Have the training requirements been expanded?

A. Paragraph (k)(9) in the Construction standard and Shipyard standard expands the training provisions. Training must be given to virtually all employees who are actively exposed to asbestos, i.e., whose exposure is the result of performing Class I through IV work, or who install new asbestos products. The second major expansion of training requirements covers curriculum method and length of training.

Q. What training is required for housekeepers under the General Industry standard?

A. The standard requires awareness training annually. The standard has a list of specific topics which must be covered. There is no length of time specified for this training.

Q. What training is needed when a custodian does maintenance work?

A. The training requirements are not tied to the job title of the worker performing the work. The work activity defines the standard (1910 1001 or 1926.1101) not the primary classification of the employer (general industry or construction). If a worker is disturbing asbestos and the disturbance will result in the generation of less than one standard 60" x 60" waste or glove bag, then Class III work is being performed and Class III training (1926.1101) is required.

For example, if a building custodian is told to scrape off a few inches of sprayed-on material (surface ACM) on a decking to access an electrical box, he/she will be performing Class III work. This type of activity would disturb the ACM matrix (crumble, pulverize, or generate visible debris) and the employee must have the required training.

Another example is if the assigned task (pounding a nail into a wall or patching a small hole) containing ACM) is easy or simple enough to not require that construction workers, maintenance persons, or repair persons perform the work even if the activity could arguably be described as “repair,” then the work is covered by the 1910.1001 asbestos standard.

MEDICAL SURVEILLANCE

Q. What are the fundamental elements of the medical surveillance requirements?

A. OSHA has clarified the medical surveillance provisions to explain that two groups will receive more limited surveillance. These include the following:

- Where workers are required to wear negative pressure respirators while performing Class I, II or III work for fewer than 30 days per year, a physician must ensure that the worker is able to use a respirator, thus limiting the requirements for surveillance of occasional respirator wearers.

- Where workers perform Class II and III work for more than 30 days per year, the employer is not required to count jobs that take less than a total of one hour per day against the 30 day tally for medical surveillance.

Otherwise, all who perform Class I, II or III work for 30+ days per year or may be exposed above the PELs for more than 30 days per year must receive full medical surveillance.

Q. When workers who have been exposed to asbestos and covered by the medical surveillance program are no longer exposed, can medical surveillance be discontinued?

A. In the General Industry standard, workers who are no longer exposed at or above the PELs are not subject to medical surveillance requirements. If the employment is terminated, the employer must provide a termination medical exam. In the Construction and Shipyard standards, the medical surveillance would stop once the provisions in (m)(1) are no longer true. The Construction and Shipyard standards do not have a termination medical exam requirement.

Q. Once medical surveillance is discontinued, what further obligations does the employer have?

A. In all three standards, the employer has to maintain the medical records for the employee's duration of employment plus thirty years.

APPENDIX D

Occupational Exposure to Asbestos

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IN THE UNITED STATES OF APPEALS
FOR THE FIFTH CIRCUIT

MAX EUBANK ROOFING COMPANY, INC. and THE NATIONAL ROOFING CONTRACTORS ASSOCIATION,

Petitioners,

No. 94-40793

v .

THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION:

Respondent.

BELDON ROOFING AND REMODELING CO.,

Petitioner,

No 94-40794

v.

THE UNITED STATES DEPARTMENT OF LABOR, - OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION:

Respondent.

BRUTON/GOMEZ & COMPANY, INC.,

Petitioner,

No 94-40795

v.

THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION:

Respondent.

LYDICK-HOOKS ROOFING OF LUBBOCK, INC.,
Petitioner,

No. 94-40796

v.

THE UNITED STATES DEPARTMENT OF LABOR,
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION:

Respondent.

JOHNSON ROOFING COMPANY, INC.,

Petitioner,

No. 94-41039

v.

THE UNITED STATES DEPARTMENT OF LABOR,
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION:

Respondent.

SETTLEMENT AGREEMENT

The Petitioners in the above-captioned cases have sought judicial review of a revised asbestos standard for construction work issued by the Occupational Safety and Health Administration (OSHA) on August 10, 1994. 59 Fed. Reg. 40964, to be codified at 29 CFR § 1926.1101. In addition, the National Roofing Contractors Association (NRCA), on behalf of its members, has filed an application with OSHA asking that the agency reconsider certain aspects of the revised standard insofar as that standard applies to roofing work. NRCA's application represents the interests of all of the petitioners in these cases.

OSHA has reevaluated the rulemaking record and has determined that certain provisions of the revised standard should be changed and that other provisions should be clarified. Accordingly, in order to resolve the issues raised by these petitions and by NRCA's application for reconsideration, the parties to these cases hereby agree to the following terms and conditions.

1. A new paragraph 1 101(g)(1 1) will be added to the standard to read as follows:

(11) - Alternative methods of compliance for installation, removal, repair, and maintenance of certain roofing materials. Notwithstanding any other provision of this section, an employer who complies with all provisions of this paragraph (g)(ll) when installing, removing, repairing, or maintaining intact roof cements, mastics, coatings, or flashings which contain asbestos fibers encapsulated or coated by bituminous or resinous compounds shall be deemed to be in compliance with this section. If an employer does not comply with all provisions of this paragraph, or if during the course of the job the material does not remain intact, the provisions of paragraph (g)(8) apply instead of this paragraph.

(i) Before work begins and as needed during the job, a competent person who is capable of identifying asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate such hazards, shall conduct an inspection of the worksite and determine that the roofing material is intact and will likely remain intact.

(ii) All employees performing work covered by this paragraph (g)(1 1) shall be trained in a training program that meets the requirements of paragraph (k)(8)(vi) of this section.

(iii) The material shall not be sanded, abraded, or ground. Manual methods which do not render the material non-intact shall be used.

(iv) Material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist. All such material shall be removed from the roof as soon as is practicable, but in any event no later than the end of the work shift.

(v) Where roofing products which have been labeled as containing asbestos pursuant to paragraph (k)(7) of this section are installed on non-residential roofs during operations covered by this paragraph (g)(1 1), the employer shall notify the building owner of the presence and location of such materials no later than the end of the job.

2. Paragraph 1 101(g)(8)(ii)(E) will be amended to read as follows:

Asbestos-containing material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist:

1) Any ACM that is not intact shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. While the material remains on the roof it shall either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.

2) Intact ACM shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift.

3) Paragraph 1 101(g)(8)(ii)(D) will be amended to read as follows:

   When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation shall be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still- wet dust and debris left along the cut line. The dust and debris shall be immediately bagged or placed in covered containers.

4) In order to comply with the requirement of paragraph ll0l(g)(l)(I) for HEPA vacuuming, employers shall collect dust and debris using a HEPA vacuum where the source of the dust and debris is accessible and non-intact ACM. The accumulation of dust and debris on a built-up roof does not require HEPA vacuuming under paragraph 1 101(g)(1)(I) in the absence of any indication that non-intact ACM is the source of the dust and debris. Similarly, the prohibition against dry clean-up of dust and debris containing ACM and PACM in paragraph 1 101(g)(3)(iii) only applies when the source of the dust and debris is accessible and non-intact ACM.

5) Paragraph 1 101(g)(1)(I) will be amended to read as follows:

   Vacuum cleaners equipped with HEPA filters to collect all debris and dust containing ACM and PACM, except as provided in paragraph (g)(8)(ii) of this section in the case of roofing material.

6) The requirement of paragraph 1101 (g)(8)(ii)(B) that wet methods be used where feasible does not require ACM on sloped roofs to be wetted when the competent person determines that wetting the shingles would create slipping and falling hazards.

7) Paragraph ll0l(h)(l)(iii) will be amended to read as follows:

   During all Class II and III work which is not performed using wet methods, provided, however, that respirators need not be worn during removal of ACM from sloped roofs when a negative exposure assessment has been made and tho ACM is removed in an intact state.

8) A new paragraph llOl(g)(8)(ii)(H) reading as follows will be added:

Notwithstanding any other provision of this section, removal or repair of sections of intact roofing less than 25 square feet in area does not require use of wet methods or HEPA vacuuming as long as manual methods which do not render the material non-intact are used to remove the material and no visible dust is created by the removal method used. In determining whether a job involves less than 25 square feet the employer shall include all removal and repair work performed on the same roof on the same day.

9) Paragraph llOl(f)(Z)(ii) will be amended to read as follows:

Basis of Initial Exposure Assessment: Unless a negative exposure assessment has been made pursuant to paragraph (f)(2)(iii) of this section, the initial exposure assessment shall, if feasible, be based on monitoring conducted pursuant to paragraph (f)(l)(iii) of this section. The assessment shall take into consideration both the monitoring results and all observations, information or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or of the operations of the employer which indicate the levels of airborne asbestos likely to be encountered on the job. For Class I asbestos work, until the employer conducts exposure monitoring and documents that employees on that job will not be exposed in excess of the PELs, or otherwise makes a negative exposure assessment pursuant to paragraph (f)(2)(iii) of this section, the employer shall presume that employees are exposed in excess of the TWA and excursion limit.

10) Paragraph 1 101(g)(8)(ii)(B) will be amended to read as follows:

Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards.

11) Paragraph 1 101(g)(1)(ii) will be amended to read as follows:

Wet methods, or wetting agents, to control employee exposures during asbestos handling, mixing, removal, cutting, application, and cleanup, except where employers demonstrate that the use of wet methods is infeasible due to, for example, the creation of electrical hazards, equipment malfunction and, in roofing, except as provided in paragraph (g)(8)(ii) of this section; and

12) Paragraph 1 101(g)(1)(iii) will be amended to read as follows:

Prompt clean-up and disposal of waste and debris contaminated with asbestos in leak-tight containers, except in roofing operations, where the procedures specified in paragraph (g)(8)(ii) apply.

13) The introductory sentence of paragraph 1 101(g)(8)(iii),will be amended to read as follows:

When removing cementitious asbestos-containing siding and shingles or transite panels containing ACM on building exteriors (other than roofs, where paragraph (g)(8)(ii) of this section applies) the employer shall ensure that the following work practices are followed:

14) Paragraph 1 101(k)(8)(vi) will be amended to read as follows:

The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by provisions in paragraphs (k)(8)(iii)-(v) where applicable, the employer shall ensure that each employee is informed of the following:

15) Paragraph 1 101(k)(6)(ii) will be amended to read as follows:
The warning signs required by (k)(6) of this section shall bear the following information.

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

In addition, where the use of respirators and protective clothing is required in the regulated area under this section, the warning signs shall include the following.

RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

16. Negative Exposure Assessment: The asbestos rulemaking record contains many personal breathing zone and area samples collected pursuant to OSHA's 1986 asbestos standard showing worker exposures during removal from roofs of built-up roofing (BUR) containing asbestos felts, asbestos-cement (A/C) shingles, and asbestos-containing transite panels. Some of these data are summarized in a document entitled Objective Data Demonstration for Certain Roofing Materials and Operations Under OSHA's 1994 Asbestos Standard, submitted by NRCA on December 14, 1994 (hereinafter referred to as the NRCA Objective Data Demonstration). The data also are representative of other roofing materials, such as asbestos-containing asphalt shingles and asphalt felt underlayments. These data consistently show exposures below the TWA and excursion limits specified in the revised standard. The data were collected by a number of different roofing contractors and represent a range of variables that can affect exposure levels during roof removals, including asbestos content of the material, the climatic conditions to which the material was exposed over its lifetime, and the age of the material. Moreover, because the 1986 standard did not mandate that roofing removal work be conducted in accord with specific work practices intended to minimize the concentration of airborne asbestos, the monitoring data collected under that standard should generally reflect higher asbestos exposures than are likely to occur when the work practices required under the revised standard are followed.

OSHA concludes that the monitoring data in the rulemaking record, including the data summarized in the NRCA Objective Data Demonstration/ show that employee exposures during roof removal work will consistently be below the TWA and excursion. limit when proper work practices are followed during removal of intact asbestos-containing roofing material. Accordingly, without determining whether the data meet the criteria for objective data in paragraph 1 101(f)(2)(iii)(A), OSHA concludes that employers may rely on the data in the rulemaking record to make negative exposure assessments for roof removal, repair, and maintenance operations when: (1) the removal practices strictly adhere to the work practices required by the provisions of § 1101 (g)(8)(ii), as amended and interpreted by this agreement; (2) all workers engaged in the removal are trained in accordance with the provisions of § 1 101(k)(8); and (3) before removal begins, a competent person assesses the job and determines that the roofing material is intact within the meaning of § 1101(b) (see Appendix A, Section 6 of this Agreement).

An OSHA compliance officer may determine that a negative exposure assessment is not justified if the required work practices are not being followed or if the employees performing the removal work are not trained in accordance with the standard. Moreover, if OSHA field data or other information weighed against the data in the rulemaking record, show that exposures during particular roof removal operations in which the required work practices are used are likely to exceed the TWA or excursion limit, OSHA reserves the right to reconsider, after providing NRCA an opportunity to comment on such field data or other information, whether roofing contractors can continue to make

negative exposure assessments for such particular roof removal operations based solely on the data in the rulemaking record.

17. Paragraph 1 101(1)(2) will be amended to read as follows:

Waste disposal. Asbestos waste, scrap, debris, bags, containers, equipment, and contaminated clothing consigned for disposal shall be collected and disposed of in sealed, labeled, impermeable bags or other closed, labeled, impermeable containers, except in roofing operations, where the procedures specified in paragraph (g)(8)(ii) apply.

18. The requirement of paragraph 1 101(g)(7)(iii) that impermeable dropcloths be placed on surfaces beneath all removal activity does not apply to the removal of asbestos containing roofing material from a solid substrate underneath the material.

19. The reference in paragraph llOl(g)(7)(iv) to "paragraph (g)(3)(I) through (v)" will be corrected to read "paragraph. (g)(l)(I) through (iii)," and the reference in paragraph 1101 (o)(3) to "paragraph (p)(3)(I) and (ii)" will be corrected to read "paragraph (o)(3)(I)."

20. The amendments and additions to the language of the standard contained in this agreement shall be published in the Federal Register as soon as practicable as part of a document containing general corrections and clarifications to the standard. The amendments and additions shall become effective immediately upon publication in the Federal Register. Before publication, employers engaged in roofing work may rely on the provisions of this agreement as an expression of OSHA's enforcement policy, and OSHA will not issue citations to any employer who is acting in accordance with this agreement.

21. The statements in Appendices A and B to this agreement accurately reflect the meaning of the standard insofar as roofing operations are concerned. The interpretations set forth in Appendix A shall be published in the preamble of the Federal Register notice described in paragraph 20 of this agreement. The interpretations described in Appendices A and B shall be published in an informational document describing how to comply with the OSHA asbestos standard in roofing operations involving asbestos-containing materials. Such informational document shall either be published by OSHA, or be published by NRCA after review by OSHA of the contents. The parties hereby agree to use their best efforts to ensure the publication of the informational document as soon as practicable, but in any event no later than August 10, 1995. Prior to publication as provided above, employers engaged in roofing work may rely on the interpretations set forth in this agreement, including Appendices A and B, as an expression of OSHA's enforcement policy, and OSHA will not issue citations to any employer acting in accordance with such interpretations.

22. The date by which the employee training required by paragraph 1 101(k)(8) must be completed for employees engaged in roofing work covered by the standard is extended to September 30,1995 .

23. Within ten days of the date the amendments and additions to the standard are published in the Federal Register pursuant to paragraph 20 of this agreement, the Petitioners in the

above-captioned cases shall file motions with the Court to withdraw their petitions. Within ten days of the date of execution of this agreement, the Petitioners will file a joint motion on behalf of the Petitioners and OSHA asking the Court to sever these cases from the cases in which other petitioners are challenging the asbestos standard and to hold briefing in these cases in abeyance until the Petitioners file motions to withdraw their petitions for review in accordance with this paragraph. Should the Court deny that motion and should any of the Petitioners file a brief challenging any aspect of the standard, this agreement shall be null and void.

24. OSHA will not, in the Federal Register document referred to in paragraph 20 of this agreement, change the language of the standard or announce any interpretation of the standard, so as to impose additional or more stringent requirements on installation, removal, repair, or maintenance of asbestos-containing roofing material without the consent of the Petitioners.

25. This agreement does not affect NRCA's status as an Intervenor in the case involving a Petition by the Building and Construction Trades Department, AFL-CIO. Should any other party that has petitioned for review of the asbestos standard challenge the roofing provisions of the standard, or should any party petition for review of the amendments and additions to the standard promulgated pursuant to this agreement, OSHA will not oppose intervention by NRCA in that case.

26. In the event that any party seeks judicial review of any provision of the standard as it applies to roofing operations, including any of the amendments, additions, and interpretations published pursuant to this agreement, OSHA will not, in defending the standard against such a challenge, make any reference to this agreement or represent in any Fashion that petitioners endorse the standard, or accept the need for, appropriateness or feasibility of any provision of the standard, including the amendments, additions, and interpretations published pursuant to this agreement. In the event a reviewing court overturns any such provision, amendment, addition, or interpretation, OSHA will keep such provision, amendment, addition, or interpretation in effect during any subsequent rulemaking or other administrative proceedings with respect to any such provision, amendment, addition, or interpretation, unless otherwise ordered by the reviewing court.

27. By entering into this agreement, the parties do not concede the validity or invalidity of any claim or argument that any party could have raised in litigation. Nothing in this agreement constitutes an admission by petitioners, or by any member of petitioner NRCA, that a significant risk of material health impairment exists in roofing operations not in compliance with the provisions of the standard affecting such operations including the amendments, additions, or interpretations adopted pursuant to this agreement, or that such provisions are feasible or reasonably necessary or appropriate to protect worker health.

28. This settlement agreement is intended for the benefit of and may be relied upon by (a) each of the parties to this agreement and their respective successors and assigns, and (b) every employer subject to federal OSHA jurisdiction (whether or not a party to this agreement) that installs, repairs, removes, or maintains asbestos-containing roofing material.

29. Within 30 days of the date of execution of this agreement, OSHA will provide copies of this agreement to the Administrators of State Plans approved by OSHA under Section 18 of the Occupational Safety and Health Act, and will notify them that the additions, amendments, and interpretations of the standard set forth in this agreement, including the provisions of paragraph 16 relating to the making of negative exposure assessments, constitute a Federal program change requiring such States to submit program change supplements pursuant to 29 CFR §§ 1953.20 and 1953.23(a). When it provides copies of this agreement to State Plan Administrators, OSHA will inform them that any amendment to a State asbestos standard that permits employers to make negative exposure assessments in circumstances consistent with paragraph 16 of this agreement, and that is otherwise consistent with the provisions of this agreement, shall be deemed to be "at least as effective" as the Federal program change.

30. The Compliance Directive issued by OSHA relating to the standard shall include the substance of the following paragraphs of this agreement: SS 1, 2, 3, 4, 6, 7, 8, and 16, and Ss 3, 6, 7, and 9 of Appendix A. Nothing in the Compliance Directive shall be inconsistent with any of the provisions of this agreement.

31. All parties shall bear their own costs and attorney fees.

32. The individuals signing this agreement on behalf of the parties hereby certify that they are authorized to bind the respective parties to the terms of this agreement.

Agreed, this last day of March, 1995.

THE UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

Joseph/A. Dear, Assistant Secretary
Occupational Safety and Health Administration

MAX EUBANK ROOFING COMPANY, INC., and
THE NATIONAL CONTRACTORS ASSOCIATION

Arthur F. Sampson, III, their Attorney
BELDON ROOFING AND REMODELING COMPANY

R. Gaines Griffin, its Attorney
BRUTON/GOMEZ & COMPANY, INC.

Richard J. Hatch, Jr., its Attorney
LYDICK-HOOKS ROOFING OF LUBBOCK, INC.

Don Graf, its Attorney
JOHNSON ROOFING COMPANY, INC.
Robert E. Holden, its Attorney

APPENDIX A

Interpretations to be published in the Federal Register Preamble and the Roofing Industry Informational Document Pursuant to Paragraph 21 of this agreement

1. Employees working on jobs covered by new paragraph 1 101(g)(1 1) and no other jobs that are covered by the asbestos standard are not subject to the special training requirements for Class II, III or IV work specified in paragraph 1 101(k)(8)(iii)(v). Workers on jobs covered by new paragraph 1 101(g)(1 1) must be trained in the following topics:

Identification and Recognition of Asbestos-Containing Roofing Materials

identification of asbestos
Uses in roofing, past and present
Characteristics of asbestos

Potential Health Effects of Asbestos

Nature of asbestos related disease, including latency and medical tests for identifying asbestos diseases
Routes of exposure
Dose response relationships
Relationship between cigarette smoking and asbestos exposure and availability of smoking cessation programs

Federal OSHA Construction Asbestos Standard

Overview of standard
Discussion of alternative methods for handling intact asbestos roof coatings, mastics, cements, and flashings
Discussion of PEL and significant risk

Intact versus Non Intact Materials

Definitions
How to-recognize non intact materials
Procedures to be followed when material is found or becomes non intact

Appropriate Work Practices

Applying mastics, cements, coatings
Manual methods for removing materials
Clean up and waste disposal

2. Competent persons supervising jobs covered by new paragraph 1 101(g)(1 1) and no other jobs that are covered by the asbestos standard are not subject to the special training requirements for Class II, III or IV work specified in paragraph 1 101(o)(4). Competent persons on jobs covered by new paragraph 1 101(g)(1 1) must be knowledgeable in the following topics in addition to the topics covered in worker training under paragraph 1 of this Appendix A:

    Methods of Determining Presence of ACRM

    Understanding and Interpreting Air Monitoring Data

        Some states, building owners, etc. require air monitoring on all ACM projects

        Understanding a negative exposure assessment

    Notification Requirements - Commercial/ Industrial Work Only

3. Under new paragraph 1101 (g)(1 1)(iii), manual methods which do not render the material non-intact include (but are not limited to) the use of spud, spade, flat-blade or slicing tools, such as axes, mattocks, pry bars, spud bars, crow bars, shovels, flat-blade knives, and utility knives, to slice, cut, strip-off, shear-under, or pry-up the material.

4. The interpretations of paragraphs 1 101(g)(1)(I), (g)(3)(iii), and 1 101(g)(8)(ii)(B) of the standard, as set forth in paragraphs 4 and 6 of this agreement.

5. Work on jobs covered by new paragraph 1 101(g)(1 1) is not Class I, II, or III work and is therefore not included under paragraph 1101 (m)(1)(I) in the determination of which employees are covered by the medical surveillance provisions of the standard unless during such jobs employees are exposed at or above the TWA or excursion limit or wear negative pressure respirators.

6. Materials, such as roofing materials, that are separated into pieces in the process of removal or repair are not considered to be non-intact solely because the material has been cut, sliced, pried, or otherwise separated into smaller units for the purpose of removal. The condition of the smaller units or pieces of removed roofing (for example, a 2 foot by 2 foot section) must be evaluated against the definition of the term "intact" in paragraph 1101(b) of the standard in order to determine whether the roofing material has been rendered "non-intact" by a removal or repair operation. For example:

    a. Built-up roofing (BUR) that has been cut into smaller sections (e.g., using a power roof cutter) and pried up from the roof is not deemed to be non-intact solely because it has been separated into pieces. If the pieces of removed BUR have not crumbled, been pulverized, or otherwise deteriorated so that [they] ; are no longer likely to be bound with [their] matrix, then they are intact as defined in paragraph 1101 (b)of the standard. On the other hand, the dust created by the destructive force of the cutting blade of a power roof cutter would be considered non-intact.

    b. The same interpretation applies to other roofing materials which are typically removed by dividing them into smaller units. For example, roof mastics and cements are usually pried, chipped or scraped off; asphalt felt underlayments are sliced and rolled-up or sometimes scraped-off or chipped-off; and flashings are sliced into manageable units and then pried-up. The fact that roofing materials

have been removed in this fashion does not by itself render them non-intact under the standard. Rather, the removed pieces of roofing must be evaluated to determine whether they are intact as defined in paragraph 1101(b) of the standard.

c. Likewise, although asbestos-cement (A/C) shingles are pried up by hand and removed as individual units of roofing, occasionally incidental breakage of the shingles will occur even during careful removal procedures. Such incidental breaking does not in and of itself render the material non-intact under the standard; the question is whether the shingles (whether broken or not) have been crumbled, pulverized, or otherwise are not likely to be bound with their cementitious matrix as a result of the removal operation. The same interpretation applies to incidental breakage of other asbestos-containing roofing materials during removal or subsequent handling.

7. When power roof cutters are used in the removal of intact built-up roofing containing asbestos felts, paragraph 1101 (g)(8)(ii)(C) requires that the machine be continuously misted during use unless the competent person determines that misting substantially decreases worker safety. Paragraph (g)(8)(ii)(D), as revised by paragraph 3 of this agreement, specifies circumstances when the dust resulting from such cutting must be a HEPA dust collector or HEPA vacuuming. Except for these requirements, wet methods, HEPA vacuuming or HEPA dust collection, and leak-tight bagging or wrapping are not required when intact asbestos-containing roofing is removed by methods that do not render the material non-intact or create dust.

8. New paragraph 1 101(g)(8)(ii)(H), although located in the section of the standard addressing methods of compliance for Class II work, also applies to Class III and Class IV roofing operations.

9. Paragraph 1 101(g)(8)(ii)(G) requires isolation or shutdown only of air intakes in the regulated area, unless the competent person determines that existing conditions (e.g., wind speed, and proximity and orientation of the intakes to the air flow) warrants isolation or closure of some intakes outside the regulated area. OSHA intends that the competent person may choose from various forms of isolation to satisfy this provision of the standard, depending on the circumstances of each particular job, including the following: (I) the use of 20 foot buffer zones, subject to the exercise of good judgment by the competent person based on site-specific conditions, as discussed in the August 10, 1994 preamble, 59 Fed. Reg. at 41006; (ii) the use of HEPA filters; (iii) the use of horizontal or vertical extensions that relocate the opening of the air intake outside or above the regulated area or away from or above a nearby upwind source of asbestos fiber emissions; or (iv) covering the intake with plastic sheeting or another kind of barrier.

Appendix B

Interpretations to be published in a Roofing Industry Informational Document Pursuant to Paragraph 21of this Settlement Agreement

1. Power roof cutters are not high speed abrasive disc saws under paragraph 1101 (g)(3)(I).

2. The requirements of paragraph 1 101(g)(2) apply only where the PELs are exceeded or are expected to be exceeded.

3. Roof re-covering work not involving the removal or disturbance of ACM does not constitute "encapsulation" or "renovation" work subject to the standard.

4. Roofing materials are not "surfacing material" as defined in paragraph 1101(b) or otherwise subject to the requirements of the standard governing Class I ACM.

5. The same methodology is used to determine whether a material contains more than one percent asbestos and is therefore "ACM" as defined in paragraph 1101(b) of the OSHA asbestos standard as is used under the EPA Asbestos NESHAP, 40 CFR § 61.141.

6. Under paragraph 1 101(e)(2), the regulated area need not encompass the entire roof, and "demarcation" methods other than warning tape can satisfy the standard, including, for example, posting warning signs on roofs with only one or a few points of access (provided, of course, the competent person supervises access as required).

7. The negative exposure assessment determination in paragraph 16 of this agreement.

8. The interpretation of paragraph 1 101(g)(7)(iii) of the standard as set forth in paragraph 18 of this agreement.

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

AZROCK INDUSTRIES INC., and FLOORS &
INTERIORS, INC.,

Petitioners,

v. No. 94-40797

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, UNITED
STATES DEPARTMENT OF LABOR,

Respondent.

HILLCREST FLOORS. INC.

Petitioner.

v. No. 94-41051

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, :
UNITED STATES DEPARTMENT OF LABOR,

Respondent.

ARMSTRONG WORLD INDUSTRIES, INC.,

Petitioner,

v. No. 94-41068

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, UNITED
STATES-DEPARTMENT OF LABOR,

Respondent.

GAF CORPORATION,

Petitioner,

v. No. 95-60125

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, :
UNITED STATES DEPARTMENT OF LABOR,

Respondent.

SETTLEMENT AGREEMENT

The Petitioners in the above-captioned cases have sought judicial review of a revised asbestos standard for construction work issued by the Occupational Safety and Health Administration (OSHA) on August 10, 1994. 59 Fed. Reg. 40964, to be codified at 29 CFR § 1926.1101. In order to resolve the issues raised by the petitions, the parties hereby agree to the following.

1. Negative Exposure Assessment: The asbestos rulemaking record contains many measurements, collected under a variety of worksite conditions, showing worker exposures during removals of asbestos-containing floor tile, sheet vinyl floor covering, and flooring adhesive (hereinafter collectively referred to as flooring material). The measurements were collected to determine whether flooring removal operations complied with OSHA's 1986 asbestos standard, which set an action level of 0.1 f/cc as an 8-hour time weighted average, an 8-hour time weighted average exposure limit of 0.2 f/cc, and an excursion limit of 1.0 f/cc averaged over 30 minutes. The 8-hour time weighted average exposure limit (TWA) under the revised standard is equal to the action level under the 1986 standard and the excursion limits under both standards are the same, so the data in the rulemaking record are relevant in determining whether flooring removal operations can be conducted within the exposure limits specified in the revised standard.

   The data show that use of certain work practices during removal of flooring material consistently result in worker exposures below the TWA and excursion limit established by the revised standard. For example, measurements in the ENVIRON reports in the rulemaking record showed exposure levels below the TWA and excursion limit when the following work practices were used.

   Removal of sheet vinyl floor covering:

   - Before removal begins, the entire floor is vacuumed using a HEPA vacuum with a metal floor attachment.
   - The material is sliced with a sharp edged instrument, such as a utility knife, into strips approximately 4 to 8 inches wide. Each strip is rolled up tightly from end to end.

- As each strip is rolled up, a constant mist of water or amended water is sprayed into the point where the material separates from the backing.
- After a strip has been removed, it is placed in a heavy duty impermeable trash bag or other closed leak-tight container.
- After three strips of flooring material are removed, any-residual felt, after being thoroughly wetted, is removed with a stiff-bladed scraper. The felt scrapings are placed while still wet in an impermeable trash bag or other closed leak-tight container.
- As removal progresses, areas from which the flooring has been removed are vacuumed using a HEPA vacuum with a metal floor attachment.
- After the entire floor has been removed and has dried, it is vacuumed using a HEPA vacuum with a metal floor attachment.

Removal of floor tiles and associated adhesives:

- Before removal begins, the entire floor is vacuumed using a HEPA vacuum with a metal floor attachment.
- Each floor tile is pried up individually using a stiff bladed scraper. If a tile does not release from the adhesive when the scraper is forced under the tile by hand, the scraper may be struck with a hammer to cause the tile to release and/or the tile is heated (e.g. using a hot air gun) to soften the adhesive and facilitate removal.
- Alternatively, without first prying up floor tiles using a scraper, heat is applied to the floor tile from a heat source (e.g. infrared heat machine) and the tiles are removed by hand or by using a scraper.
- After the tile is removed, it is placed in a heavy duty impermeable trash bag or other closed leak-tight container without further breakage.
- As small areas of floor are cleared of tile, residual adhesive is removed, to the extent necessary to prepare the surface for installation of new flooring material, by being wetted and scraped using a stiff bladed floor scraper.
- Alternatively, after the tile is removed, residual adhesive is removed by using a low speed floor machine and wetted sand or a removal solution.
- Adhesive residues are placed while still wet in a heavy duty impermeable trash bag or other closed leak-tight container.
- The area from which the adhesive has been removed is vacuumed using a HEPA vacuum with a metal floor attachment.
- After the entire floor has been removed and has dried, it is vacuumed using a HEPA vacuum with a metal floor attachment.

In addition to the work practices used when the measurements in the ENVIRON reports were made, the revised standard requires wetting of tiles prior to removal when the tiles are not heated (see §§ 1 101(g)(1)(ii) & (g)(8)(I)(H) and paragraph 9 of this agreement). Removal of flooring material using the above work practices, including wetting of unheated tiles prior to removal (see ¶ 9 of this agreement), fully complies with the requirements of § § 1101 (g)(1), (g)(2), and (g)(8)(I). This agreement will refer to this combination of work practices as compliant work practices.

Based on the data in the rulemaking record, OSHA concludes that employee exposures will consistently be below the TWA and excursion limit during removal of intact (see § 1101(b) and paragraph 2 of this agreement) flooring material when compliant work practices are followed. Accordingly, without determining whether the data meet the criteria for "objective data" in § 1101 (f)(2)(iii)(A), OSHA concludes that employers may rely on the data in the rulemaking record to make negative exposure assessments for floor removal operations when: (1) only compliant work practices are used; (2) all workers engaged in

the removal are trained in accordance with the provisions of § 1 101(k)(8); and (3) before removal begins, a competent person assesses the job and determines that the flooring material is "intact" within the meaning of § 1101(b) and is likely to remain "intact" throughout the removal process. (See paragraph 2 of this agreement for the meaning of intact).

The rulemaking record also shows that exposure levels can exceed the TWA when removal methods that are not designed to minimize release of asbestos fibers are used. Therefore, an OSHA compliance officer may determine that a negative exposure assessment is not justified if compliant work practices are not being followed, if the employees performing the removal work are not trained in accordance with the standard, or if the flooring material is not removed intact. (See § 1101(b) and paragraph 2 of this agreement). Moreover, if OSHA field data or other information, weighed against the data in the rulemaking record, show that exposures during particular floor removal operations in which compliant work practices are used are likely to exceed the TWA or excursion limit, OSHA reserves the right to reconsider, after providing these Petitioners an opportunity to comment on such field data or other information, whether flooring contractors can continue to make negative exposure assessments for such particular floor removal operations based solely on the data in the rulemaking record.

2. Definition of Intact: The term "intact" is defined at§ 1101(b) to mean "that the ACM has not crumbled, been pulverized, or otherwise deteriorated, so that it is no longer likely to be bound with its matrix." In accordance with this definition, the incidental breakage of flooring material, including slicing of sheet vinyl floor covering with a sharp edged instrument, during removal operations conducted in accordance with compliant work practices (see ¶1 of this agreement) does not mean that the material is not removed in an "intact" condition within the meaning of § 1101(b) and §§ 1 101(g)(8)(I)(G) & (H), and a "substantially intact" state within the meaning of § § 1101 (g)(7)(ii) and (h)(l)(ii). Rather, the issue of whether flooring material is "intact" or "substantially intact" is determined by whether the flooring material (whether broken or not) has crumbled, been pulverized, or has otherwise deteriorated so that it is not likely to be bound with its matrix. The incidental breakage of flooring materials, or slicing of sheet vinyl floor covering with a sharp edged instrument, during removal of flooring materials conducted in accordance with compliant work practices (see paragraph 1 of this agreement) also does not mean that such operations constitute an aggressive method within the meaning of § 1101(b).

3. Competent Person Training: In order to comply with the requirement of § 1101 (o)(4)(I) regarding competent person training, any removal of flooring material in which the material is not removed intact (see § 1101(b) and paragraph 2 of this agreement) must be supervised by a competent person who has successfully completed a training course meeting the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisors. In accordance with § 1101(q) (3)(vii), as amended (60 Fed. Reg. 9624 (Feb. 21, 1995)), such training shall be completed as soon as possible but no later than July 10, 1995. A flooring removal project in which compliant work practices (see paragraph 1 of this agreement) are used and the material is removed intact (see § 1101(b) and paragraph 2 of this agreement) may be supervised by a competent person who has successfully completed a training course providing instruction in the matters listed on the outline attached as Appendix A to this agreement, provided that person otherwise meets the definition of a competent person in 29 CFR § 1926.32(f). Such training course shall be at least 12 hours in duration. If a job is being supervised by a competent person who has not completed a training course meeting the criteria of EPA's Model Accreditation Plan for supervisors and, during the course of that job, it is found that the flooring material cannot be removed

intact (see § 1101(b) and paragraph 2 of this agreement), work must be stopped until the job can be evaluated and supervised by a competent person who has completed such a training course.

The training course for competent persons who supervise removal of intact (see § 1101(b) and paragraph 2 of this agreement) flooring material using compliant work practices (see paragraph 1 of this agreement) shall be completed as soon as possible but no later than November 10, 1995. A person who has successfully completed the employee training required by § 1101 (k)(8), as clarified under paragraph 10 of this agreement, may satisfy the competent person training requirement by successfully completing the additional training course set forth in Appendix A to this agreement at a separate training session, which shall be at least 4 hours in duration.

4. Jobsite Inspections by Competent Person: In order to comply with the requirement of §5 1 101(o)(2) & (3) that the competent person make frequent and regular inspections of a job site, and the requirement of § 1 101(o)(3) that for Class II and III jobs, on-site inspections be made at intervals sufficient to assess whether conditions have changed, and at any reasonable time at employee request, the competent person supervising a flooring removal project shall inspect the site prior to the start of removal operations (e.g., during the pre-job bidding process) for purposes of conducting the initial exposure assessment. If a negative exposure assessment is made, the competent person shall thereafter inspect the site within a reasonable time of any employee request or upon learning of any conditions that cast doubt on the validity of the negative exposure assessment, such as unusual difficulty in removing the material.

5. Impermeable Dropcloths: The requirement of § 1101(g) (7) (iii) that impermeable dropcloths be placed on surfaces beneath all removal activity does not apply to the removal of flooring material from a solid substrate underneath the material.

6. Notification of Adjacent Employers: In order to comply with the requirement of § 1 101(k)-(2)(ii)(B) for notification of employers of employees who work and/or will be working in areas adjacent to work that is subject to the asbestos standard employers who remove intact flooring material (see § 1101(b) and paragraph 2 of this agreement) using compliant work practices (see paragraph 1 of this agreement) must notify only employers of employees who, during the removal of flooring material, are or will be working in areas that are not separated from the work area by an impermeable barrier, which may include a wall, closed door or window.

7. Warning Signs: The warning signs required by § 1 101(k)(6) to demarcate a regulated area need not contain any statement to the effect that respirators or protective clothing are required when the asbestos standard does not require that respirators and/or protective clothing be used under the conditions present in the area.

8. Respirator Fit Test Training: Before any employee is assigned to a job in which the employee is required to wear a respirator pursuant to 5 1101(h), the respirator must be fit tested pursuant to § 1101 (h)(4)(I)-(ii), and the employee must be given fit test training that complies with 29 CFR § 1910.134(e)(5). The requirement of § 1 101(k)(8)(vi)(E) that employees be trained in the purpose, proper use, fitting instructions, and limitations of respirators as part of the training program required prior to or at the time of initial assignment to any job that is subject to the asbestos standard does not require that

hands-on fit testing be given to employees whose assigned duties do not require them to wear respirators.

9. Wetting: For the removal of floor tile not subject to § 1101 (g)(8)(I)(H), the requirement to use wet methods or wetting agents under § 1101 (g)(1)(ii) is satisfied by misting the floor tile with water or other wetting agents, provided that the floor tile is removed intact within the meaning of § 1101(b), as clarified by paragraph 2 of this agreement.

10. Employee Training: The employee training required by 1101(k) (8) shall be completed no later than November 10, 1995. A person who has completed an 8-hour training course that addresses the topics listed in Appendix A to this agreement shall have received the training required to conduct removals of intact flooring materials (see § 1101(b) and paragraph 2 of this agreement) using compliant work practices (see paragraph 1 of this agreement). Additional training in the precautions needed when removing non-intact flooring material shall be required before the employee may engage in removal of such material.

    A person who, after August 10, 1994, has successfully completed a training course that substantially conforms to the requirements for an 8-hour employee training course set forth in Appendix A to this agreement shall be deemed to have satisfied the employee training requirement of § 1101 (k)(8) if the employee certifies by November 10, 1995 that he/she has received and reviewed supplemental training materials which address any subjects not covered in the initial 8-hour course.

11. Removal of Floor Tile Using Heat: The requirement of § 1101 (h)(1)(iii) that respirators be used during class II work that is not performed using wet methods does not apply to the non-wet removal of intact floor tile using heat, as provided in § 1 101(g)(8)(I)(H), when the other compliant work practices (see paragraph 1 of this agreement) are followed.

12. Identification of ACM and PACM: When work subject to the construction standard is limited to removal, repair, or maintenance of flooring material, the requirements in § § 1 101(k)(1) & (2) for identifying and communicating the presence, location, and quantity of ACM and PACM apply only to the flooring material in the work site or work area respectively.

13. Typographical Corrections: The reference in § 1 101(g)(7)(iv) to "paragraph (g)(3)(I) through (v)" will be corrected to read "paragraph (g)(l)(I) through (iii)," the reference in § 1101(o)(3) to "paragraph (p)(3)(I) and (ii)" will be corrected to read "paragraph (o)(3)(I)," and the reference in § 1101(k) (7)(vi) to "paragraphs (k)(2)(I) through (k)(2)(iii)" will be corrected to read "paragraphs (k)(7)(I) through (k)(7)(iii)" in a corrections document to be published in the Federal Register.

14. The interpretations, clarifications and corrections in this agreement with respect to the provisions of the revised asbestos standard for construction work shall apply to corresponding provisions in the revised asbestos standard for shipyard employment issued by OSHA on August 10, 1994, 59 Fed. Reg. 40964 to be codified at 29 CFR fi 1915.1001.

15. OSHA will enforce the asbestos standard in accordance with the provisions contained in

this agreement and will not enforce citations issued to any employer who acted in accordance with this agreement prior to its execution. This agreement will be transmitted to OSHA's regional and area offices as an appendix to the Compliance Directive relating to the standard. OSHA will provide copies of this agreement to the administrators of sate plans approved by OSHA under Section 18 of the occupational Safety and Health Act and will notify them that the interpretations of the standard set forth in this agreement, including the provisions of paragraph 1 relating to the making of negative exposure assessments and paragraph 3 related to competent person training, constitute a federal program change. When it provides copies of this agreement to state plan administrators, OSHA will inform them that any amendment to a State asbestos standard that permits employers to make negative exposure assessments in circumstances consistent with paragraph 1 of this agreement and that establishes training requirements for competent persons consistent with paragraph 3 of this agreement and that is otherwise consistent with the provisions of this agreement, shall be deemed to be at least as effective as the federal program change.

16. OSHA will publish a Federal Register notice that contains the typographical corrections listed in 1 paragraph 13 of this agreement and also corrects and amends the standard and its preamble in other ways. In that Federal Register notice, OSHA will not amend the standard in any manner that significantly affects the requirements pertaining to removal of flooring material.

17. This settlement agreement is intended for the benefit of and may be relied upon by (a) each of the parties to this agreement and their respective successors and assigns, and (b) every employer subject to federal OSHA jurisdiction (whether or not a party to this agreement) that conducts removals of flooring material.

18. Within ten days of the date of execution of this agreement, these Petitioners shall file motions with the court to withdraw their petitions.

19. This agreement does not affect the Petitioners' status as Intervenors in the case involving a Petition by the Building & Construction Trades Department, AFL-CIO, or a Petition by American Federation of State, County and Municipal Employees, or the right to seek Intervenor status in any other petition filed in this case. Should any other party that has petitioned for review of the asbestos standard challenge the flooring provisions of the standard, or should any party challenge the validity of any provision of this agreement in a judicial proceeding, OSHA will not oppose intervention by the Petitioners in that proceeding.

19. In the event that any party seeks judicial review of any provision of the standard as it applies to flooring operations, OSHA will not, in defending the standard against such a challenge, make any reference to this agreement or represent in any fashion that Petitioners endorse the standard, or accept the need for, appropriateness or feasibility of any provision of the standard.

20. In the event a reviewing court overturns any interpretation contained herein, OSHA will keep such interpretation in effect until the agency takes subsequent action with respect to such interpretation unless otherwise ordered by the reviewing court.

21. By entering into this agreement, the parties do not concede the validity or invalidity of

any claim or argument that any party could have raised in litigation. Nothing in this agreement constitutes an admission by Petitioners that a significant risk of material health impairment exists in flooring operations subject to, or not in compliance with, the provisions of the standard affecting such operations or that such provisions are feasible or reasonably necessary or appropriate to protect worker health.

22. The terms of this settlement agreement may not be modified or amended without the written consent of the parties to this agreement.

24. All parties will bear their own costs and attorney fees.

Agreed, this 15th day of June, 1995

APPENDIX A

REMOVAL OF RESILIENT FLOOR COVERINGS TRAINING COURSE OUTLINE

These courses are designed to train workers to remove "intact flooring materials (see § 1101 (b) and ¶ 2 of this Agreement for meaning of "intact") using compliant work practices (see ¶ 1 of this Agreement for a description of "compliant work practices") and to meet the training requirement for a competent person who supervises removals of intact flooring materials. To qualify as a competent person, a person must complete the 8-hour employee training course (including receiving a passing examination grade) and then successfully complete the additional course, including a passing grade on a separate examination covering Sections 10-13, and must otherwise meet the definition of competent person under 29 CFR § 1926.32(f). Completion of these training courses does not qualify workers to remove non-intact flooring material or competent persons to supervise removal of non-intact flooring material.

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 non-friable 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 material
- Regulated areas/Respirators/Negative Air Pressure/Protective Clothing/ Decontamination Procedures
- How Regulations are enforced
- Federal Government agencies that regulate asbestos removal
- OSHA Asbestos Standard
- EPA NESHAP
- 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
- Notifications requirements

Section 4 - Removal of Resilient Floor Tile

- Video demonstration of properly removing floor tile
- Live demonstration of properly removing floor tiles
- "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 SUPERVISORS OF INTACT REMOVAL OF FLOORING MATERIALS USING COMPLIANT WORK PRACTICES (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 sections 10-13)

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIFTH CIRCUIT

SAFE BUILDINGS ALLIANCE,

Petitioner,

v. No. 94-41222

THE UNITED STATES DEPARTMENT OF LABOR,
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION,

Respondent.

SETTLEMENT AGREEMENT

The petitioner in the above-captioned case has sought judicial review of the revised asbestos standards for general industry, construction and shipyards issued by the Occupational Safety and Health Administration (OSHA) on August 10, 1994, 59 F.R. 40964, to be codified at 29 CFR 1910.1001, 1915.1001, and 1926.1101. In, order to resolve the issues raised by this petition, the parties hereby agree to the following.

1. In order to assure that the Preamble to the asbestos standards is fully consistent with the regulatory text, OSHA will take the following corrections to the Preamble to the final standards covering occupational exposure to asbestos (59 FR 40964 et seq.).

   a) OSHA will delete the second sentence in paragraph 2, p.40978, col 1, and in its place will insert the following paragraph.

> In many places in this Preamble, OSHA refers to highrisk ACM and PACM. These terms are not used in the regulatory text. The term risk refers to the possibility or potential for injury and does not mean injury will necessarily occur. OSHA uses these terms in the Preamble in a relative sense to describe its findings that TSI and surfacing material are more prevalent and can be more friable than many other asbestos-containing materials in buildings. As discussed elsewhere in the Preamble, OSHA finds that the OSHA-required provisions involving all types of ACM should result in low exposure levels that would protect employees from significant risk.

b) OSHA will delete the phrase high hazard on page 40964, column 1, paragraph 1.

c) OSHA will delete the phrase high hazard three times, on lines 8-9, 10 and 15 of the last paragraph, from the bottom of the first column on p. 41016 and in their place insert the phrase "high risk".

d) OSHA will delete the phrase "high hazard" on line 28 of the third column on p. 41016 and in its place insert the phrase "potentially high risk".

e) OSHA will delete the phrase "any contact with ACM/PACM which releases fibers or which alters its position or arrangement" on the last three lines in column 2 of page 40977 and line 1 of paragraph 1 of column 3 on p. 40977, and in its place substitute the phrase "activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM; or generate visible debris from ACM or PACM."

f) OSHA will insert the phrase "perform housekeeping" after the phrase " all employees who", on line 10 of paragraph 2 in the first column on p. 40975.

2. OSHA will correct the regulatory text by making the following redesignation and technical revisions:

a) OSHA will correct §1910.1001 (k)(7)(iv), §1926.1101(1)(4),and §1915.1001 (1)(4) to read as follows:

> Waste and debris and accompanying dust in an area containing accessible thermal system insulation or surfacing material or visibly deteriorated ACM..

b) To conform to the above correction, OSHA will correct §1910.1001 (k)(l) to read as follows:

> All surfaces shall be maintained as free as practicable of ACM waste and debris and accompanying dust.

c) OSHA will clarify that a rebuttal of PACM must show that the material is not "ACM," defined as material containing more than 1 percent asbestos. Accordingly OSHA will substitute the term "ACM" for the term "asbestos" and will delete the phrase "in the material" in paragraphs (j)(8)(ii)(A) and (B) in the general industry standard and paragraph (k)(4)(ii)(B) in the shipyards and construction standards.

d) OSHA will correct its definition of the term disturbance to clarify the distinction between Class III and Class IV asbestos work. Therefore, the definition of disturbance in paragraph (b) of the construction and shipyards standards will be corrected to read:

Disturbance means activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM.

e) To further clarify the distinction between Class III and IV asbestos work, OSHA will correct the definition of Class IV asbestos work in § 1915.1001(b) and § 1926.1101 (b) to read as follows:

"Class IV asbestos work means maintenance and custodial activities during which employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II and III activities."

f) Paragraph (g)(9)(iii) of the construction and shipyards standards will be corrected to add the phrase "or another isolation method" at the end of the paragraph. As corrected the paragraph will read as follows:

Where the disturbance involves drilling, cutting, abrading, sanding, chipping, breaking, or sawing of thermal system insulation or surfacing material the employer shall use impermeable dropcloths, and shall isolate the operation using mini-enclosures or glovebag systems pursuant to paragraph (g)(3) of this section, or another isolation method."

3. The corrections and additions to the Preamble and regulatory text of the standards contained in this agreement shall be published in the Federal Register as soon as practicable as part of a document containing general corrections and clarifications to the standards. The amendments and additions to the regulatory text shall be effective immediately upon publication in the Federal Register. Before publication, employers may rely on the provisions of this agreement as an expression of OSHA's enforcement policy, and OSHA will not issue citations to any employer who is acting in accordance with the provisions of this agreement.

4. Within ten days of the execution of this Agreement, the Petitioner will file a joint motion on behalf of the Petitioner and OSHA asking the Court to sever this case from the consolidated cases in which other petitions are challenging the asbestos standards and to hold briefing in this case in abeyance until OSHA publishes in the Federal Register the additions and amendments to these standards. If Petitioner's pending motions to intervene in the cases brought challenging the OSHA standards by AFSCME, BCTD and SEIU have been granted, within ten days of the last called for in this Agreement or any other additions or amendments published sua sponte or as called by other Agreements, Petitioner shall, unless it determines that any of the other additions or amendments are inconsistent with the issues covered by this Agreement, file a motion with the Court to withdraw its petition. In no event will Petitioner, once OSHA publishes the additions and amendments called for in this Agreement, raise before the Court any objections to any part of the standards as issued August 10, 1994.

5. OSHA will inform the Petitioner of any other change in the regulatory text which will affect the requirements relating to building owners, which will be included in the Federal Register notice referred to in paragraph 10 of this agreement.

6. By entering into this agreement the parties do not concede the validity or invalidity of any claim or argument that any party could have raised in litigation.

7. All parties will bear their own costs and attorney fees.

8. The individuals signing this agreement on behalf of the parties hereby certify that they are authorized to bind the respective parties to the terms of this agreement.